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JOURNAL

OF THE

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Royal Institution of Cornwall.

VOLUME VII.

1881—1883.

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1883.

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NATIONAL MUSEUM

The Council of the Royal Institution of Cornwall desire that it should be distinctly understood that the Institution as a body is not responsible for any statements or opinions expressed in the Journal; the Authors of the several communications being alone answerable for the same.

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to S. Q. Moore

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Royal Institution of Cornwall.

SPRING MEETING, 1881.

The Annual Spring Meeting was held at the Rooms of the Institution, Truro, on May 10th, 1881. The President, The Lord Bishop of Truro, in the chair. Amongst those present were Dr. Barham, F.M.S.; Dr. Jago, F.R.S.; Rev. W. Iago, F.S.A.; Rev. A. P. Moor and Hamilton James, members of council; H. Michell Whitley, F.G.S. (*Hon. Sec.*); Revs. Canon Cornish, Chancellor Whitaker, T. S. Stephens, H. S. Walpole, Carey Dickinson, J. A. Reeve; Messrs. J. C. Daubuz, R. M. Paul, T. Hawken, W. Criddle, S. Trevail, T. Clark, etc.

The following list of presents was read:

ADDITIONS TO THE LIBRARY.

Transactions of the Historic Society of Lancashire and Cheshire	From the Society.
Journal of the Royal Geological Society of Ireland	Ditto.
Journal of the Society of Arts	Ditto.
Monthly Notices of the Royal Astronomical Society	Ditto.
Proceeding of the Philosophical Society of Glasgow	Ditto.
Transactions of the Manchester Geological Society	Ditto.
Proceedings of the Society of Antiquaries of London	Ditto.
Proceedings of the Zoological Society of London	Ditto.
Transactions of the Royal Geological Society of Cornwall	Ditto.
Proceedings of the Geological Association ...	From the Association.
Journal of the Liverpool Polytechnic Society ...	From the Society.
Journal of the Cambrian Archæological Association	From the Association.
Collections, Historical and Archæological relating to Montgomeryshire and its borders	From the Powy's Club.

Journal of the Anthropological Institute of Great Britain and Ireland	From the Institute.
Transactions of the Epping Forest, and County of Essex Naturalists Field Club... ..	From the Club.
History of North American Pinnipeds	From E. V. Hayden.
Bulletin of the United States Geological and Geographical Survey, vols. 5 and 6	Ditto.
Journal and Proceedings of the Royal Society of New South Wales	From the Society.
Mines and Mineral Statistics and Maps, and Annual Report	Ditto.
History of the Loyal Town of Rippon	From Mr. Thomas Dunstan.
Fourteen Nos. of Mineral Statistics	From Mr. J. H. Collins.
Historical Records of Ancient Cornwall	Ditto.
Gurney's Lectures on Chemistry	Ditto.
Proceedings of the Yorkshire Geological and Polytechnic Society	From the Society.
Notice of Earthworks in the parish of English Bicknor	Sir John Maclean.
Sensorial Vision, a paper read by Sir J. F. W. Herschell, Bart., before the Philosophical and Literary Society of Leeds	From the Society.
Physical condition of the People, a paper read by the Rev. R. Bickersteth	Ditto.
Inaugural Address by Professor Owen, F.R.S.	Ditto.
Memoranda, Views, and Plans illustrative of the history of the House Guards	Mr. W. H. Tregellas.
A View of the interior of St. Mary's Church, Truro, in 1865	Mr. R. H. Carter.

ADDITIONS TO THE MUSEUM.

Specimens of Quartz, Crystallized of Calcite and Blende, from the Roman Gravel Mine Shropshire	Presented by Mr. Arthur Waters.
Specimens of Native Sulphur from the Giona Mines, Racalmeeto, Sicily	Presented by Mr. B. Le Neve Foster.
Specimens of Granite from Lamorna, Granite from Corsica	Presented by Mr. J. H. Collins.
Specimens of Porphyritic Granite from Corsica... ..	Ditto.
Ditto Orbicular Diorite	Ditto.
Ditto Brecciated Quartz Capel, from Wheal Mary Ann Mine... ..	Ditto.
Ditto Veinstone, Chalybite and Quartz, from Wheal Penrose	Ditto.
Ditto Elvan Traversing Slate, from near Wheal Coates	Ditto.
Ditto Vein Structure from Porthleven	Ditto.
Ditto Polyphant Stone, from the quarries near Launceston	Ditto.

Specimen of Mineral Vein Chalybite in Quartz	Presented by Mr. J. H. Collins.
Ditto Gilbertite, from Stannagwyn... ..	Ditto.
Ditto Curious Structure, from St. Agnes ...	Ditto.
Ditto Fish remains from St. Columb Porth	Ditto.
Ditto Shells from the lower beds Woolwhic	Ditto.
Ditto Ancient Pipe from old Workings, at Belowda Mine, Roche	Ditto.
Ditto Fossils from Porthalla... ..	Ditto.
Ditto Basic Slag from a Copper Furnace, Swansea	Ditto.
Ditto Crystallized Slag, a product of Copper Smelting from Swansea	Presented by Mr. T. S. Merry.
Ditto Molybdenite Slag	Ditto.
Ditto Crystals from Hardhead from Chyandour	Presented by Mr. A. K. Barnett.
A Collection of Curiosities and relics from Zululand	Presented by Capt. W. H. James.
Specimen of Potatoo Stone from Polyphant Shelf Rock Slate	Presented by Mr. G. Dingle, Tavistock.
Ditto Calcedony in Prisms	Ditto.
Ditto Green, Brown, and White Carmetian from East Cornwall	Ditto.
Four Tokens... ..	Presented by Mrs. Thurston C. Peter.
Humerus of the Great Rorqual Whale ...	Presented by Mr. Hamilton James.
A Collection of Foreign Butterflies and Moths	Presented by Mrs. C. Fox.
Specimen of Lime Stone from Newquay, }	
Fossil Lime Stone from Porthalla ... }	
Ditto Trappean Conglomerate, St. Michael }	Presented by Mr. Thos. Clarke. ~.
Carhayes	
Ditto Serpentinous Schist from Porthalla }	
Ditto Three Fossils from the Slate Beds of Delabole and Tintagel... ..	Presented by Mr. Roberts, through Mr. Trevail.

Dr. BARHAM read a letter from Mr. Carter, accompanying a carefully-finished water colour drawing, by J. Von Hacht, of the interior of St. Mary's Church in 1865, which he presented to the Institution; and also drew attention to a beautiful little oil painting by Miss Paull, Bosvigo, of the anchor supposed to have belonged to one of the ships of the Spanish Armada, dredged in the bay at Newquay.

The PRESIDENT then delivered his Address, which will be found at page 7 of this number of the Journal.

The Rev. W. IAGO then gave a description of a newly-discovered inscribed stone at Cardynham, an illustration of which was exhibited in the room. It is used as a gate post. The inscription seemed to be, or at all events to resemble, in condensed Latin, these words – | – ORA P'IA (or IEL) Q'P'SU IT H [and cruce]. The letters, he said, were very indistinct and puzzling, but next Thursday he would visit the spot again with Mr. Currie, who discovered the stone, when he hoped to make something more of the inscription than he had at present. If it should read E'PS, it struck him that it might allude to Episcopus, or a Bishop, as in the case of a well-known stone in Ireland, on which the name of the Bishop appeared EPS. In this case, however, it might be Q turned the wrong side up, when it would read as given with the *cruce* represented by a cross, which appeared very faintly at the end of the inscription. He hoped, however, to solve his doubts at his next inspection. He had pleasure in announcing that Mr. Currie would take care to prevent any of the inscribed stones in the county being injured in the future. A similar post had been marked by the Ordnance Survey, but this would not occur again. Mr. Iago also mentioned that Mr. Currie had discovered some other inscribed stones, which he hoped to introduce at a future meeting of the Institution.

MR. H. MICHELL WHITLEY then drew attention to a collection of ancient Maps and Charts relating to Falmouth Harbour and the South Coast of Cornwall, which he had copied in London for the purpose of illustrating his paper on "The Silting up of Falmouth Haven."

The earliest of these was a Portulane, A.D. 1400, and was very rudely drawn. The next in point of date was a large MS. Chart, of the South Coast of Cornwall and Devon, made early in the reign of King Henry VIII, and might have been prepared for the use of the King during his visit to Cornwall to decide on what fortifications were to be built. On this there are several curious inscriptions: "Whitesonde Bay, where Parkyn londyd;" "The Oggus, where the Frenchmen londyd;"—this is to the west of St. Michael's Mount where the French landed in 1514, and burnt the town of Marazion; "The entrie of fflowey haven an arrowe shotte over," etc.; Glasney College, the Church of the Black Friars, Truro, and other interesting objects are also shewn.

Another Chart showed Falmouth Haven in the same reign, but, although it was exceedingly quaint, it gave no additional information. The next Map was the most practically useful one of the whole collection, and for this he was indebted to Mr. Walter H. Tregellas, as there was no copy of it in the British Museum. It was a survey of Falmouth Harbour made in 1597, by Baptista Boazio, and was full of information.

In Truro, nothing was shewn on the south of the river, the town then consisting of The Church of St. Mary, with the High Cross; Pydar Street, St. Mary Street, Old Bridge Street, with some houses on the St. Clement side of the river; King Street, Powder Street (now Boscawen Street), and some houses stretching towards the Quay which then existed. A Church is shewn in Tresillian Village and St. Margett's Chapel, about a mile below Tregoney.

Amongst the other Maps described were Captain Grenville Collin's Survey of Falmouth Harbour in 1681, in Great Britain's Coasting Pilot, Waghener's Map, dated 1588, from The Mariner's Mirrour, Dummer's Survey of 1692, A Plott of Falmouth Harbour in the reign of James II, etc.

The following papers were then read:—

“On A Humerus of the great Rorqual Whale, found at Port Holland,” by HAMILTON JAMES.

“On the Geology of Central and West Cornwall,” by J. H. COLLINS, F.G.S.

“Extract from Clerical Subsidy Rolls relating to the Hundred of Powder, 4 Richard II, and Inventory of Church Goods, Hundred of Powder, temp. Edward VI,” by H. MICHELL WHITLEY, F.G.S.

The latter showed that at the time of Edward VI, St. Austell boasted of a clock. With regard to this item, the PRESIDENT said that whilst examining the west front of St. Austell tower with a friend, he was struck with a circular hollow sunk in the wall, surrounded with 24 small circles, whilst the stone was pierced through in the centre, apparently for a spindle to work the hands of a clock. They were extremely puzzled about a clock having been fixed at so early a date, and his friend inclined to the theory that a sun-dial had been fixed, though he pointed out that the marks did not corroborate such an idea. He thought a

clock had been there, and Mr. Whitley's paper confirmed his opinion. He suggested that modern Church Architects might take a hint from this as to providing for fixing Church Clocks as an integral and decorative feature of towers.

“Rural Notes, Parish of Kea,” by T. A. Cragoe, F.R.G.S.

MR. TREVAIL brought the subject of a proposed Art Gallery for Cornwall before the Meeting, and read a letter from Mr. Richard Tangye, of Birmingham, offering £100 for that purpose as soon as £900 has been collected; he thought the rooms of the Institution might be utilised for such a gallery.

The usual votes of thanks were passed unanimously.—To the Authors of Papers submitted to the Society, to the Donors to the Museum and Library, and to the President for his able Address and conduct of the meeting

Spring Meeting, 1884.

THE PRESIDENT'S ADDRESS.

THE remarks which I have the honour of addressing to you to day may very properly be fewer in extent and more limited to the incidents of our affairs than a year ago. There are before you several papers of great interest, and as I am unavoidably summoned elsewhere before the conclusion of the meeting (although I hope to rejoin you later), I will take leave to listen with you, while I may, and not occupy you like those talkers who perceive brevity to be the soul of wit—in *other* men.

But there is in truth little to narrate. A President who sets out with prophecies may easily find, as he slides into a chronicler, that such prophecies take long to fulfil, while the record of a year all goes into a few lines. But quiet periods are not always unfruitful.

But to our chronicle. The sad part of it always comes first. We have marked the flight of time by losing from our neighbourhood the honoured widow of one to whose services the Institution owes more than to those of any one other person. So I am assured by the only person who could contest that honour. We have lost Mrs. W. M. Tweedy.

We have lost, also, the hospitable genial man, whose old home, and the old name transferred to him, associates Cornwall with days when quiet Fowey sent out a great contingent of ships to meet the Armada, and the yet older days when Poitiers was won, and its shield became our shield, and the Black Prince lodged in his own Cornish castle. We have lost Dr. Treffry of Place.

And we have lost a member whose personal bravery and generous zeal for liberty were honoured by some who would wish liberty won by some other means. We have lost Garibaldi's Englishman—we have lost Colonel Peard.

And one loss we have sustained of a wholly different kind, to us irreparable, though, happily not to science, or to the work which I believe will one day know him better.

We have lost to other scenes of work our devoted secretary, Mr. Collins. As an accurate observer of difficult phenomena, as a recorder and classifier, patient of observation, as the very genius of order in our own arrangement and our catalogues of specimens, as a lucid teacher, as a most kind friend and helper, as a promoter of all that was good and pure and true, many could tell his worth. But it requires his equal to know the value of his research and generalisations, and to foresee what may be hoped from his transference to a wider work. We know how we miss his thoughtful yet bright looks, from this table, and how our good wishes pursue him.

It is no slight expression of regard for him, and of determination that his good work shall not drop, that Mr. H. M. Whitley and Major Parkyn have at once undertaken to carry it on as honorary secretaries, and are prepared to devote their greatest energy to the cause; while two of our most valued fellow labourers, Mr. Iago and Mr. Tregelles, have promised to act in similar capacities, one in East Cornwall and the other in London. We may hope then that the influence and serviceableness of the Society may even now be extended further than hitherto.

Like most Institutions which are in a state of efficiency, we are also in a state of indebtedness. Old foundations only appear to escape this law. But it never seems to me that what is immoral for the individual can be a virtue in a corporation. Schemes of solvency therefore may perhaps be suggested to day. It would be a relief to all our work to clear off some more mortgage. Meantime I will suggest a little further outlay to be cleared off at the same time. Italy has a proverb

"Freno indorato non migliora il cavaleo."

Yet the horse's points are set off if not improved by comely caparison.

Our valuable collections and our books want brighter outsides. Sydney Smith used to glorify his library as he called it, and

Dean Jeremie when he did not know how to please a sensitive scholar, delicately begged to be allowed to bind handsomely all the books he loved best. Cases and bindings would be a bright, happy, not very costly contribution to our rooms. And then again, for more solid uses, a little more ready money is wanted for specimens necessary to completeness, a little more for the publication of materials of considerable value now in our hands.

The Schedules which we issued to obtain particulars of churches, have many of them been dispersed. Not many have returned. It is well they were not sown broadcast, for the inexperienced eye images any one church as possibly involving all the particulars (which is far indeed from the case), and is scared at apparent complexity. But to real archæologists like Mr. Whitley, Mr. H. Randolph, Col. Cocks, and (I trust) Mr. Iago, who have kindly undertaken portions of the work, they wear though not an *otiose*, yet a manageable aspect. Such sheets, will be permanent descriptive photographs of every church, and are the only possible basis for true theories of architectural history.

The Tuesday Evenings will, I hope, be reported on by some whose engagements have permitted that enjoyment. For that they have been enjoyable, as well as useful, I have heard from several visitors, and I would that the practical pleasantness of the idea could be worked out into a revival of some of the literary and scientific coteries of our grandfathers. Yet all such thoughts must, after all, be the garniture and gilt binding of the substance of our Institution's work. These are days in which the old *otium cum dignitate* of literary leisure has been transformed into the *negotium importunum* of toilsome production.

“neque enim robustior ætas
ulla, neque uberior, nec quæ magis æstuet ulla est.”

The industries of capital, and the organization of education, ask whether letters and science can contribute to their development, or will sit on their school committees. If not they will kindly recommend us to

The hairy gown and mossy cell
Where we may sit and rightly spell
Of what we please to play with.

But we answer with a half-sigh that they can and will work hard for working day uses. We beg for leave and

time to go on with theories and speculations more daring, more hopeful, and more sacred, than have engaged former ages—knowing that it is only out of the abstract, and out of the recondite, and out of that which at first is apparently true without being useful, that everything has been really educed which the dry and dusty world now praises as practical. A child's thoughtful play with the steam of a kettle, a boy's dream about the fall of an apple, a man's tricks with a key and a kite-string, are more than partially true parables of how electricity, and gravitation, and steam, came to take service in our streets, and roads, and houses. And sanitary arts are yet in their infancy, and disease and death ride in triumph through our houses, only because ignorant selfishness will not hearken to philosophy. But we are very anxious too, that all education, even the most abstract, should have mingled with it some little using of eyes and fingers—some intentional directed application of sensations and volitions to the things which surround us; that powerful intellects, busy in the world of thought, should not, as grand old Sedgwick used to say, “reel and stagger through God's outer creation as if they were blind or drunk” —without seeing it or feeling for it.

I hope it is no lack of modesty to say, for I say it out of the depths of humility and veneration, that I believe few men can have drunk intenser pleasure and exultation as boy and man from the classical authors, or felt more passionately that they yet store treasures of feeling and thought reserved for a worthier age. But still, I believe, that very pleasure and that very love of their glories was not dulled but edged by the little I picked up in laboratory or workshop; by the Saturday afternoons of years with the once famous Dr. Ick, in his “Natural Philosophy Lectures,” as they were then called, or the “Thursday Lectures” which that scholar of scholars, Prince Lee, insisted that his Sixth Form should thoroughly enter into through the midst of their best scholarship work.

It is not only that I am grateful for being made thus able to comprehend some little of what I hear (though I hope trained not to talk *ultra crepidam*), and to have more than a vague reverence for the mysterious “riddle of this painful earth.” I feel and know that all the other work which I have ever been

allowed to touch has been deepened in power and interest by the mere filings and chippings of science which I have been allowed to finger.

I desire that others should share what has been a blessing to me, and I want every school of higher education to work (if it were ever so little of) these great subjects into their teaching.

Every boy and every girl of grammar and high school who has the least strain of anything which can be called culture, should be taught something of science, something of archæology.

As a preliminary, here, I wish some parties of the more intelligent pupils might be formed, and conducted with explanations round our museum from term to term, and then I hope that lectures like those of Mr. Collins's may be resumed, be more wisely valued, better attended, and that our laboratories and collections may subserve the intellectual and spiritual progress (I cannot separate them) of those of whom (if I not misjudge) many generations will yet be trained in Truro.

I have been longer than I meant to be. And now what I feel most deeply I will say most briefly. It has been a great honour to me to have been your President two years, and I feel it more than you think, and I shall never cease to feel it.

One of the most inspiring monuments of ancient Rome is the marble Fasti—the engraved lists of her consuls, as they ruled and served her year by year,—now in her Capitol. As you look on many otherwise unknown names which rank among Scipios, and Cæsars, and Claudius, and Fabii, you say they were worthy men, or they would not be in such company. So a tiro in archæology and one who in science can only peep under the curtains at the feet of the horses, now has his name on the Fasti with many of your very best Cornishmen, and has you to thank for it.

THE SILTING UP OF THE CREEKS OF FALMOUTH HAVEN,

By H. MICHELL WHITLEY, C.E., F.G.S., *Hon. Sec.*

At the last Monthly Meeting of this Institution, I brought before the members some notes relative to the recession of the tide in the valley of the Fal, and I have to call their attention in this paper to a kindred subject, which although it has not that halo of romance cast around it by old traditions, yet possesses several elements of interest, especially to us who are all well acquainted with the various beautiful branches of Falmouth Haven, of which Drayton sings :—

Here Vale a lively flood her nobler name that gives,
To Falmouth and by whom it famous ever lives :
Whose entrance is from sea so intricately wound,
Her haven angled so about her harb'rous sound
That in her quiet bay a hundred ships may ride,
Yet not the tallest mast be of the tall'st descried.

I propose then to examine in detail the various Creeks of the Harbour, to compare their present condition with their former one, as far as it can be ascertained, and thus to deduce what changes have taken place in the course of years.

Taking first the main branch of the River Fal that flows up to Tregony, I find that at and for some little distance below the bridge the bed of the stream has silted up at the rate of about 1 foot in 30 years. The average velocity of the Fal at Tregony is 210 feet in a minute, which is sufficient to sweep along stones the size of an egg.

The drainage area of the Fal at Tregony Bridge is 26,300 acres, and from numerous observations I have made on the discharge of streams in Cornwall, I find that the mean flow of a river is on the average for the year, 100 cubic feet per minute per square mile, varying between 260 cubic feet per minute per square mile in February, and about 10 cubic feet per minute per square mile in July. The mean flow of the Fal will therefore be about 4100 cubic feet per minute, and this water highly charged with silt in suspension, passes downwards until it is arrested by the tidal-flow, and the mud is then deposited.

That this mischief has been considerable is evident, and in order to ascertain its extent, I have consulted the whole of the available printed maps and charts, and many others in manuscript, at the British Museum, which could give any information with reference to the subject. The three earliest charts giving soundings are a Survey of Falmouth Harbour made in 1597, by Baptista Boazio,* Captain Grenville Collin's chart in Great Britain's Coasting Pilot, published in 1681, and another M.S. chart, drawn by Edward Dummer for the Admiralty in 1698, and these three maps are those mainly used in the following statement.

The silting up of the Fal below Tregony bridge is clearly shown by a comparison of the Admiralty Chart of 1855, with the one drawn in 1698 by Edward Dummer for the Lords of the Admiralty. Opposite Ardevora, where there was in 1698 six feet of water at low water spring tides, was in 1855 a bank reaching a foot above it, being 7 feet accumulation. At Tolvern Point where there was 24 feet of water in 1698, there was in 1855 but 12 feet being 12 feet less; and Tregothan boathouse with formerly 30 feet, in 1855 had but 12 feet, showing 18 feet of deposit to have accumulated at this spot.

It is thus very apparent that serious shoaling is going on below Ruan, and that the recession of the tide that I traced at our last meeting, from Tregony downwards, still continues in the tidal reaches of the Fal.

TRESILLIAN CREEK is the next branch of the Haven of any extent. The watershed above Tresillian Bridge is 13,820 acres, and the average discharge of the stream will be about 2200 cubic feet per minute. Turning now to the early maps before referred to, that of Baptista Boazio, in 1597, shows but little mud bank as then existing below S. Clements Point, and at this spot Captain Collins shows 3 feet at low water in the channel, where now the bottom is a foot above, being four feet accumulation.

There is but little Mineral or China Clay water now flowing into this creek carrying silt, although formerly stream tin works existed above Ladock, and the deposit of the extensive mud banks is mainly alluvial.

* For this most valuable map I am indebted to the courtesy of Mr. W. H. Tregellas.

Sir Henry de la Beche assumes in his *Geology of Cornwall, Devon, and West Somerset*, a minimum estimate of one cubic foot of alluvial deposit per day, from each square mile, and this for a watershed of 29 sq. miles, with an area of $\frac{1}{10}$ ths of a square mile of creek, will be equal to 1 foot accumulation in depth over the whole river bed above Malpas in 1050 years. I am, however, of opinion, that this estimate is a very low one, and as Sir Henry gives no data on which he founded it, I have endeavoured by experimental enquiry to ascertain the proportion of silt brought down by our rivers in flood.

On February 7th, 1881, after a heavy rainfall, I took a sample of the River Allen in flood, and by a careful analysis, conducted in the Laboratory of our Institution, I found that the water was charged with one part in 1000 in volume of silt in suspension.

Adopting this proportion for flood water, I have calculated from the registered rainfall, and my own observations on the proportion of water run off the soil to the rain, that in the year 1880, 367,700 cubic feet of mud were carried down by the streams into Tresillian Creek from its watershed.

The whole of this alluvial detritus will not be deposited above Malpas, owing to the tidal flow leaving the creek bare, during which the turbid water is confined to the channel, and does not flow over the mud banks.

Taking the average time per tide during which silt could settle on the banks above Malpas at 4 hours, one third of the above mentioned quantity of mud would be deposited, or 122,566 cubic feet, the remainder settling in the tideway below. Assuming this to be the yearly average, the creek, with its area of $\frac{1}{10}$ ths of a square mile, is now silting up at the rate of about a foot in a hundred years, and this I shall assume as being the normal rate of increment of mud from alluvial deposit, although I can only offer it as an attempt to approximate to the solution of an interesting problem.

TRURO CREEK, with Calenick creek, receives three streams. The River Allen having a drainage area of 7070 acres, discharging on the average about 1100 cubic feet per minute; the Kenwyn stream having a watershed of about 5070 acres, and an average flow of about 800 cubic feet per minute; and the Calenick stream draining about 4690 acres, and discharging an average of about

700 cubic feet per minute. Here the accumulation of silt has proceeded at a more rapid rate, the mud being from 6 to above 12 feet in depth in its deepest parts. The deep water in Truro Creek has receded greatly in the past three hundred years. In 1587 there was but little mud below Calenick creek, a wide fair channel occupying more than half the river, whilst opposite Malpas Point the bed of the creek has silted up 6 feet since 1681.

Coming now to more recent surveys—on comparing a plan of the river made in 1814, showing the depths of water then existing with one made in 1858, a great increase in the mud banks is seen to have taken place.

Three inches of mud have gathered between these dates on the bank between Garras Wharf and the Town Quay; and at Lower Newham the silt deposited is in some cases as much as 18 inches in depth, and averages 6 inches over the whole width of the river, whilst below Calenick creek at Trevaster Point, a very large accretion has taken place, the average accumulation of mud being 1 foot 9 inches in depth, and the maximum 2 feet 6 inches to 3 feet on some banks.

In the last 25 years a probably accelerated rate of deposition has no doubt obtained.

On February 5th, 1881, I obtained a sample of water flowing into the creek from the surface of the streets of Truro, and I found that it contained 1 part in 205 in volume of silt in suspension. This was of course only from the urban area, and a limited quantity. The River Allen when in flood on the 7th, containing 1 part in 1000 in volume of silt in suspension as before stated.

In Calenick creek, owing to the quantities of mine water allowed to flow into it during the last 10 or 15 years, the navigation has been practically stopped; pools I can remember three to four feet in depth, are now silted up completely, and barges and lighters can no longer come up to the rope-walk quay, it is probable that this creek has shoaled nearly two feet during the time mentioned.

Passing now down the river, there has been a gradual accumulation of mud in the various banks, causing a narrowing of the fair-way, and the deeper portions of the river shewn in the older charts have considerably silted up.

CARNON CREEK, the next in order, shows the most serious accumulation of silt in Falmouth Haven.

The river flowing at Carnon Bridge takes the drainage of 9510 acres, and that of Perranwharf of 9190 acres. It has been calculated that the former stream discharges on the average about 1,140,000 cubic feet per day, and about 980,000 cubic feet from the great adit, giving a total quantity of about 2,120,000 cubic feet per day, and this amount is highly charged with silt in suspension from the mines and stamping mills.

In a chart of Falmouth Harbour drawn about 1620, the tide is shown flowing beyond Lower Carnon, and there is a tradition that it once flowed above Bissoe Bridge, but a very different condition of the river obtains now.

In the 21 years between 1821 and 1842, about 16,416,000 cubic feet of silt were deposited between Higher Carnon and Devoran, besides a large quantity below.

The depths silted up at different points varied from $2\frac{1}{2}$ feet at Carnon Bridge, to 9 feet at a spot 1200 yards below the new turnpike road, and on the average is about $5\frac{1}{4}$ feet, giving 20 feet accumulation in 100 years, or 1 foot in 5 years, during this period, which was during a time of great activity in the mining districts.

Mr. W. J. Henwood, F.R.S., stated in his presidential address to this Society in 1870, that at Higher Carnon a foot bridge which in 1815 to 1820 was three to four feet above the level of the stream, in 1867 had been buried under about two feet of detritus, the surface of the valley at this spot having been raised at the rate of about one foot in ten years.

Nor has the mischief been less below Devoran. Mr. Richard Thomas, writing on the subject in his history of Falmouth, says : "If these waters be charged ordinarily with 1 part in 300 of earthly matter (sometimes they contain more than double that quantity) there will be brought annually into Restronguet creek about two millions and a half of cubic feet . . . besides immense quantities of gravel which in times of heavy rain, are swept along the beds of the streams and ultimately into the navigation."

It would be, therefore, expected that this arm of the Haven should have shoaled considerably, and this is seen to be the case, for on referring to the Admiralty Survey of 1698, it is found that the channel opposite Penpoll has silted up 10 feet, and at Restronguet Pool, at the higher end, where there was in 1698

42 feet at low water, and springs, the silt has so accumulated that in 1855 the spot was dry at the same period, and at the lower end, where in 1698 there was 30 feet, there was in 1855 only 18, showing lessened depths of 42 and 12 feet respectively, whilst the bank between the main channel of the Haven and Restronguet; has shoaled during the same period from 12 to 3 feet at low water.

Turning now to the main body of the Harbour itself, great changes will be seen to have taken place. The map of Baptista Boazio, in 1597, shows a long, narrow tongue running out from Mylor Point, called "The Barre of Pencra." In 1681, this bank is not shown, and the deep water between Turnaware and Mylor lay on each side of the Haven, with "the Middle Bank" between. At present this bank no longer exists, as the channel from Turnaware curves through the centre of the harbour to St. Just Pool. It is evident also that the finer matter in suspension has been deposited in the more quiet portions, forming shoals, but in other places the bed has scoured deeper, and on the whole it does not seem that the harbour itself has shoaled at such a rapid rate as its creeks, although it has been calculated by Mr. Thomas that the silt brought down into the Harbour would form a layer 1 foot thick in about 43 years, supposing it uniformly distributed throughout the Haven and its branches. But the condition of the various creeks described plainly shows what serious mischief has taken place and is still progressing, and as the more tidal water is excluded the less will the scouring power become, the subject is one deserving the serious attention of those entrusted with the care of the Haven.

ON THE GEOLOGICAL AGE OF CENTRAL AND WEST CORNWALL,

By J. H. COLLINS, F.G.S., *Member.*

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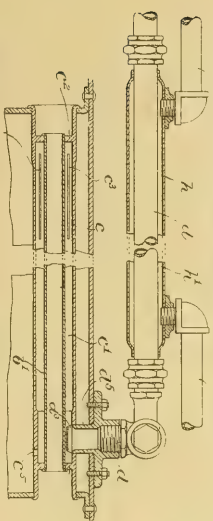
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Claim.—1. A knife-sharpener, comprising two reversible cutting-blades and a suitable spring holding them together, said spring being adjustable upon the blades whereby the yielding power thereof may be regulated, and the spring removable to enable the blades, to be separated and reversed, substantially as and for the purpose set forth.

2. A knife-sharpener, comprising two cutting-blades each having their two sides flat and concave respectively, said blades being separable and reversible and yieldable to the blade of the knife passing between them, and means for holding the blades together, substantially as and for the purpose specified.

740,841. FEED-WATER HEATER. ROBERT H. FRASER, Boston, Mass. Filed Mar. 12, 1903. Serial No. 147,361. (No model.)



Claim.—1. A boiler provided with a plurality of fire-tubes, an enlarged tube surrounding one of the fire-tubes and forming with the latter an annular feed-water conduit located within the boiler, and a feed-pipe communicating with one end portion of said conduit, the opposite end portion of the conduit communicating with the water-space of the boiler.

2. A boiler provided with tube-sheets and fire-tubes engaged therewith, an enlarged tube engaged at its ends with the tube-sheets and provided internally with annular plugs or flanges near its ends, a fire-tube located within said enlarged tube and engaged at its ends with said plugs, said enlarged tube and the fire-tubes therein forming the walls of an annular feed-water conduit located within the boiler and surrounding the said fire-tube, and a feed-pipe communicating with one end portion of said conduit, the other end portion of the conduit communicating with

Claim.—1. A roof comprising hexagonal tiles which are joined successively in transverse rows by doubly interlocking upstanding rib-seams at their longitudinal edges, and by interlapping flat seams at their oblique upper and lower edges.

2. A metal-tile roof comprising hexagonal metal tiles having their opposite parallel longitudinal edges formed respectively with an upturned flange rebolded inwardly upon itself and overhanging the plate, and an upstanding flange rebolded outwardly downward and inwardly upward, the former adapted to be interlocked with the latter by endwise sliding engagement to form longitudinal upstanding rib-seams, the upper and lower oblique edges of said tiles being provided with flanges which are reflexed outward and inward respectively, whereby they are adapted to be engaged by broadside movement of the one toward the other in the endwise-interlocking movement of the longitudinal edges.

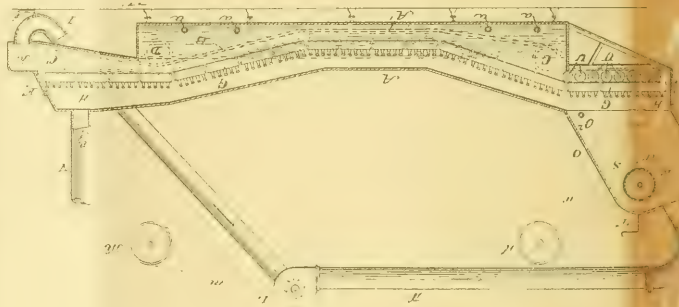
3. In a metal-tile roof, hexagonal metal tiles having upstanding reflexed flanges at their opposite lateral edges, adapted to interlock endwise to form longitudinal upstanding rib-seams between the adjacent tile of each transverse row, and having at their upper and lower oblique edges flanges reflexed outwardly and inwardly respectively, and having terminating at the lower apex the longitudinal upstanding hollow boss or saddle, 10, adapted to stride the upstanding rib-seam of the next lower row.

4. In a metal-tile roof, hexagonal metal tiles having their adjacent edges correspondingly flanged for interlocking with the tiles of each row overlapping at their lower edges the adjacent tiles of the next lower row, and having at their upper edges lugs projecting upwardly beyond the fold-lines of the interlocking flanges to afford means for securing each tile to the roof underneath the next overlapping tile.

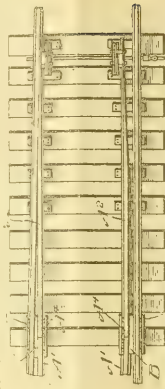
740,843. METAL CEILING. ALBERT FRIEDLEY, Chicago, Ill. assignor of one-half to Herman F. Voshardt, Chicago, Ill. Filed Apr. 27, 1903. Serial No. 154,408. (No model.)



pipe connected to the casing below the conveyer at the inlet end and leading to said hood and means for forcing vapor through said pipe, substantially as described.



2. In a switch-joint, a main rail, a lead rail, a switch-point pivoted to said lead-rail, a spacing-block extended between the main rail and the lead-rail and switch-point, and projections carried by the switch-point adapted to seat in recesses in said block.



3. In a switch-joint, a main rail, a lead-rail, a switch-point pivoted to said lead-rail, a spacing-block extended between the main rail and the lead-rail and switch-point, projections carried by the switch-point adapted to seat in recesses in said block, and a base-plate beneath said rails provided with an overturned edge at the opposite side of the switch-point from the projections carried thereby.

4. In a switch-joint, a main rail, a lead-rail and switch-point carried thereby, a spacing-block between said main and lead rails, a hinge having leaves extending upon the outer face of said lead-rail and switch-point, and securing-bolts for said hinge extending through the lead-rail, block and main rail.

5. In a switch-joint, a main rail, a lead-rail and switch-point carried thereby, a spacing-block between said main and lead rails, a hinge having leaves extending upon the outer face of said lead-rail and switch-point, securing-bolts for said hinge extending through the lead-rail, block and main rail, a hinge-securing bolt carried by the switch-point and having an extended head adapted to seat in a recess formed in said block, and a securing-bolt extending from the inner portion of said recess through the main rail.

6. In a switch-joint, a main rail, a lead-rail and switch-point carried thereby, a spacing-block between said main and lead rails, a hinge having leaves extending upon the outer face of said lead-rail and switch-point, securing bolts for said hinge extending through the lead-rail, block and main rail, and a securing-bolt extending from the inner portion of said recess through the main rail.

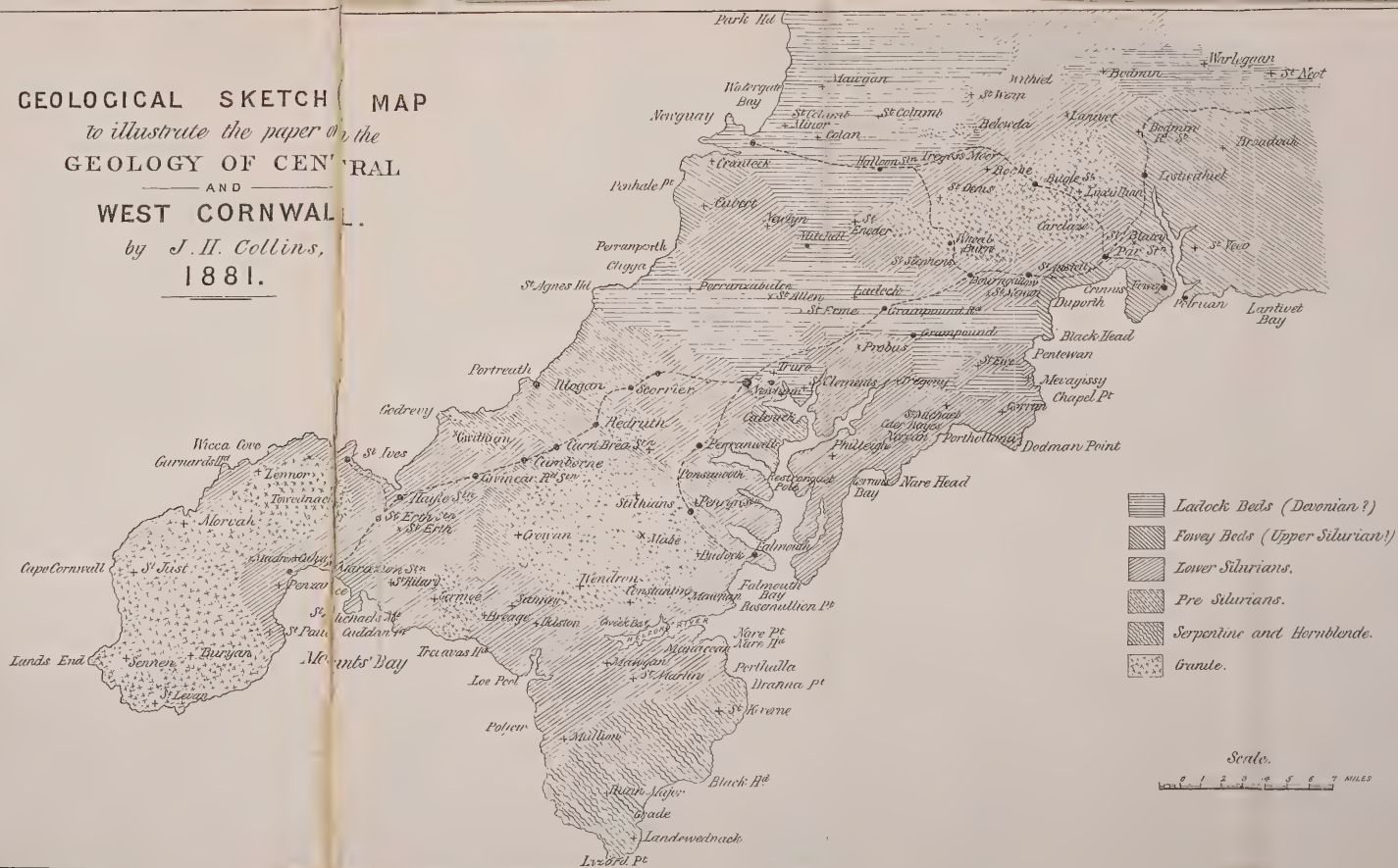
Gerrans Bay

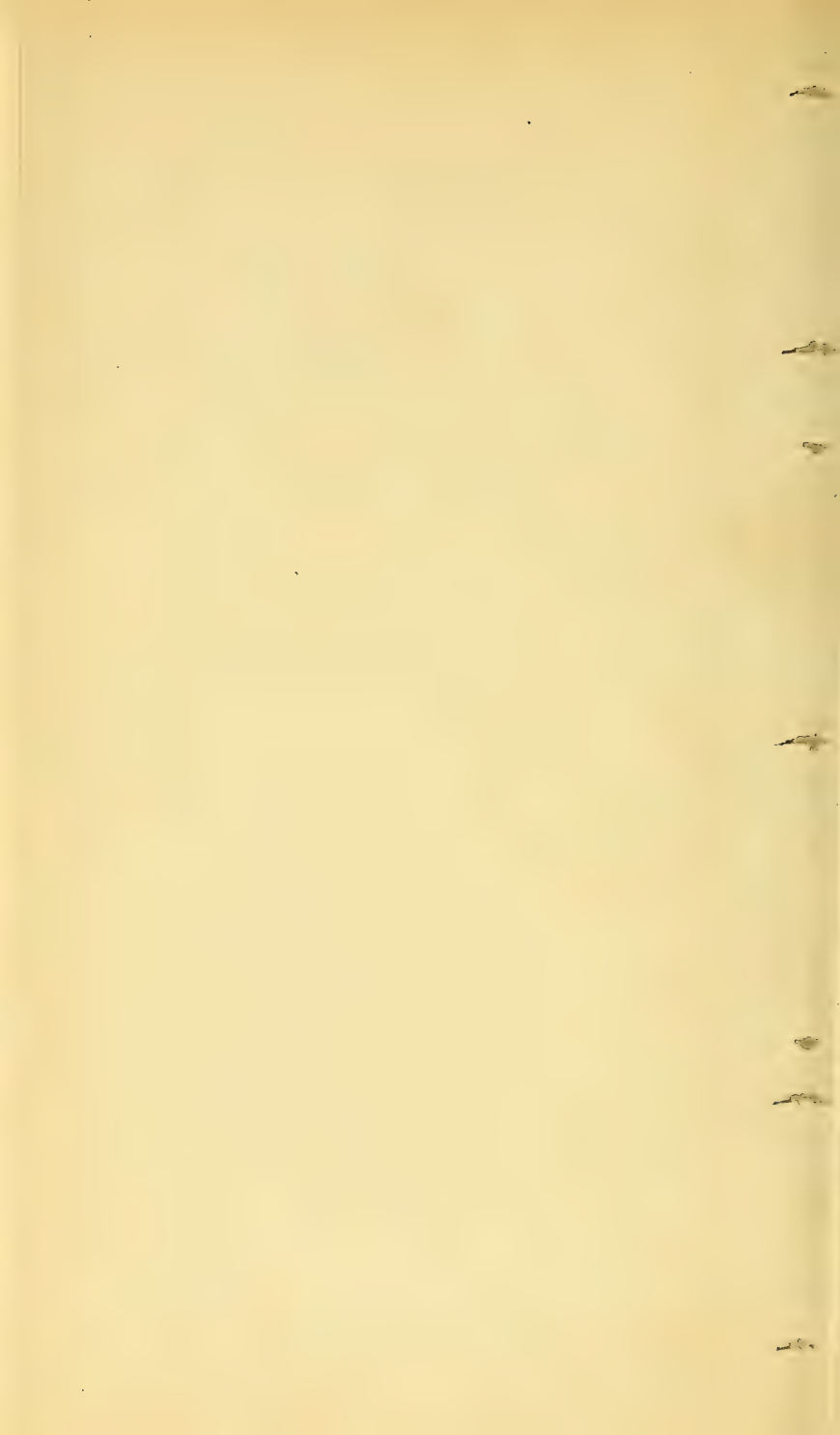
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to illustrate the paper on the
GEOLOGY OF CENTRAL
— AND —
WEST CORNWALL.

by J. H. Collins,
1881.





Conclusion.

Existence of Four Unconformable Formations.

Why not Discovered Before ?

Small Mechanical Effects of Granitic Intrusions.

Chemical Effects Proportionate to the Masses of the Intrusive Rocks.

Dislocations of Strata, Cumulative Effects.

Total Thickness of Sedimentary Rocks.

Evidences of Rapid Accumulations—great lapse of time notwithstanding.

Introduction.

The Geological Age of central and west Cornwall has long been regarded as a more or less open question. The maps of the Geological Survey, almost unaltered since the time of Sir Henry de la Beche, are coloured as Devonian over nearly the whole of the county, the only notable exception being the small but well-known patch of Lower Silurian rocks on the south coast, extending from Chapel Point to Pendower, an area of about 12 square miles, which includes the parishes of Gorran, Caerhayes, and Veryan.

De la Beche himself seems to have known that these rocks occupied a much greater area than is shewn on the survey maps, as he speaks in his "Report" of their extension to Mesack Point, some miles up the Falmouth Harbour,* and hints at their being continued into the district to the south of the Helford River,† which I have lately shown to be the case in a paper read to the Royal Geological Society of Cornwall.‡ He also supposes that the calcareous rocks of the Van cliff, further to the east, are of the same age as the Gorran Beds, but these, I believe, are of intermediate age.§

Before proceeding let me just mention the chief difficulties with which the geological observer has to contend in Cornwall,

* *Report on the Geology of Cornwall, &c.*, p 86.

† *Ibid*, p 95.

‡ On the Geological Structure of the northern part of the Meneage Peninsula *Trans. Roy. Geol. Soc. Corn.*, X, p 47.

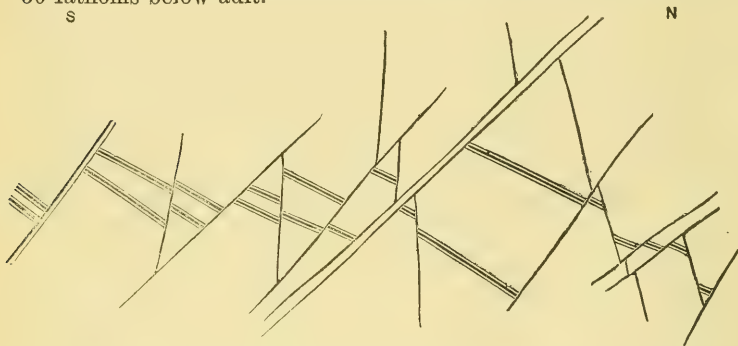
§ *Rep. Roy. Geol. Soc. of Corn., &c.*, p. 83. See, however, the statement made by Mr. C. W. Peach, that some of the fossils he had collected at the Black Head, close to the Van cliff, had been recognised by Professor Edward Forbes as Graptolites.—*Trans. Roy. Geol. Soc. Corn.*, III, p. 121. My own opinion is, that the Van cliff is Upper Silurian, and the Blackhead partly Lower Silurian and partly eruptive.

and especially in West Cornwall. These are as follows :

1st.—A general similarity of Mineralogical character in all the stratified rocks of whatever age they may be, resulting from the great amount of metamorphism to which the whole series has been subjected. This is true *generally*, since nearly all the rocks now visible at or near the surface have been at one time buried deeply under miles of rock, which has since been denuded away ; it is also true *locally* owing to the number of intrusive rock-masses, and the almost innumerable mineral veins.

2nd.—Frequent obliterations, or at least maskings of stratification by “ cleavage ” and by “ cross-bedding.”

3rd.—Numerous disturbances, by faults, sometimes very large, but generally of comparatively small amount. In some neighbourhoods these dislocations of the strata are so numerous, and their final result is so complicated, that the whole region partakes of the character of a gigantic breccia, as in the example sketched from Penhalls Mine, in the parish of St. Agnes, at a depth of 50 fathoms below adit.*



4th.—Numerous overturns of the strata at the surface—the rocks at their outcrop very commonly dipping down hill, whatever the real dip of the strata may be. This feature is particularly well seen in the quarry behind Erisey Terrace, at Falmouth.

5th.—Absence of fossils of any kind from the greater part of the area in question, and rarity of distinguishable species even in the best known fossiliferous localities.

* For this diagram I am indebted to my friend Mr. Alfred Davies, formerly of St. Agnes.

This rarity of fossils is no doubt in part due to the rarity of limestone rocks, but even where limestones do occur, as at the Van, near St. Austell, in Gorran, in Gerrans Bay, in Betsy's Cove near Porthalla, and at Newquay, very few fossils can be found which are of much value to the Palæontological student.*

On the other hand, the immense extent of the coast sections, and the occurrence of a large number of inlets and creeks, affords facilities for observations which are not available in many other counties, and these facilities would be still more valuable were it not for the greatly shattered state of the rocks on the coast, and their very frequent displacement by landslips.†

The Ladock Beds. (Devonian ? Old Red Sandstone ?)

The most recent stratified rocks of central and west Cornwall,—with the exception of the ancient stratified superficial deposits of St. Agnes Beacon and elsewhere,—are remarkably well developed in the parish of Ladock,—a few miles to the N.E. of Truro.‡ These Ladock beds consist of a series of alternations of dark-grey or bluish schistose strata,—at times almost like roofing slate,—with others of a softer nature which are usually reddish or yellowish; together with a few beds of sandstone, occasionally passing into a moderately coarse conglomerate, or a dark-blue quartzite. These sandstones are very often soft and incoherent, they consist almost entirely of angular§ grains of quartz, the

* With regard to the rarity of limestones, I may mention that so far as I know, not a single lime-kiln in the whole of the county is occupied in burning Cornish limestone.

† It might have been expected that the deep excavations for mining purposes would have afforded much valuable information of a stratigraphical nature. This, however, is not the case to any great extent,—owing to the fact that the strata are usually much disturbed and altered in the immediate neighbourhood of mineral veins.

‡ During the past five or six years, I have spent a good deal of time in examining the rocks between St. Austell and Truro, and some of the results of my observations have from time to time been brought before the Royal Geological Society of Cornwall, and also before the Geological Section of the British Association. See "Preliminary Note on the Stratigraphy of West Cornwall," *Trans. Roy. Geol. Soc. Corn.*, X, 1, 1878; "On the Geological Structure of the Menage Peninsula," *ibid* 47, 1879; "On the Treliassick Elvan," *ibid* IX, 221, 1877; "The Hensbarrow Granite District," *Truro, Lake and Lake*, 1877; and "On the Geological Age of the Rocks of West Cornwall," *Rep. Brit. Assoc.*, p. 347, Sheffield, 1879; "Recent Analyses, &c." *Journ. Roy. Inst. Corn.* xxx, p. 408.

§ Some of these sandstones have been recently described by Mr. J. A. Phillips. See *Quart. Jour. Geol. Soc.*, Feb. 1881, pp. 9, 10,

occurrence of rounded particles being very local and exceptional. Generally they are held together by a somewhat calcareous cementing material, so that they are readily decomposed, the result being the production of the deepest, richest, and most productive soils in the district. Where they lie flat, or at low angles, they are usually denuded away into broad shallow valleys, so as to form very characteristic features in the regions in which they occur.* In a few places, however, where these sandstones are crossed by mineral lodes or siliceous cross-courses, they are found to be silicified to considerable distances on either side of the cross-vein. In such places, as at Bissick in Ladoek parish, Treworgans in Probus, and Treworgans in St. Erme, the rock is very hard and durable, and forms an excellent road-metal. In a few instances rocks so silicified stand up above the general surface of the country, and form prominent features in the landscape.* Whether hard or soft,—fine or coarse in grain,—these sandstones almost invariably contain angular fragments of dark-slate; never in the least degree rounded, and exactly resembling some thin slaty bands, which occur interbedded with the sandstones. Some are so thin, and at the same time so very irregular in shape, that they cannot have been subject to the smallest friction on the shore. They are too large to have been floated out on the surface of the water, and must, I think, have been blown by the wind from cliffs near by into the sea in which the sandstones were being laid down.

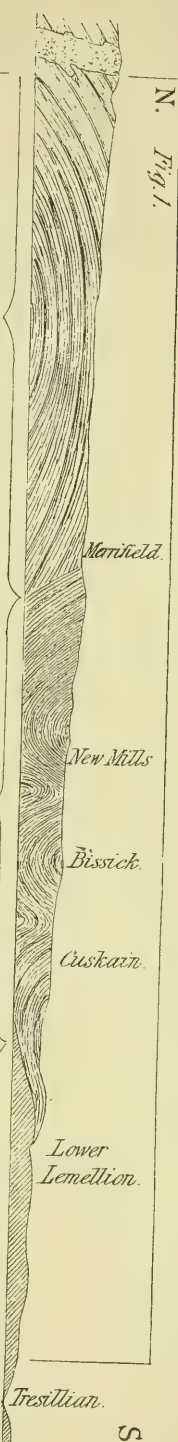
Cross-bedding is very frequent if not invariable in the thicker beds of sandstone, and, as in many similar instances seems to indicate that they have been deposited very rapidly.

The Ladoek beds, although pierced by many intrusive rocks, have a remarkably regular east and west strike, and often a pretty considerable southern dip. They are, however, rolled over and crumpled together to a considerable extent, at least three anticlinal curves being observable in the Ladoek valley, within the space of less than four miles, as shown in the accompanying section, fig. 1, plate A. After a great deal of trouble, and

* The home-fields, orchards, and gardens, of the older farms, are often planted on these decomposed and disintegrated sandstones.

† The "Halebote rock" in the parish of Creed is composed of this sandstone.

N. Fig. 1.



Lower Silurian Strike N.E.

Ladock Beds. Strike E

Lower Silurian. Strike N.E.

Section in the Ladock Valley from Tresillian to near St. Enoder.

Length of Section, Eight Miles

Fig. 2.



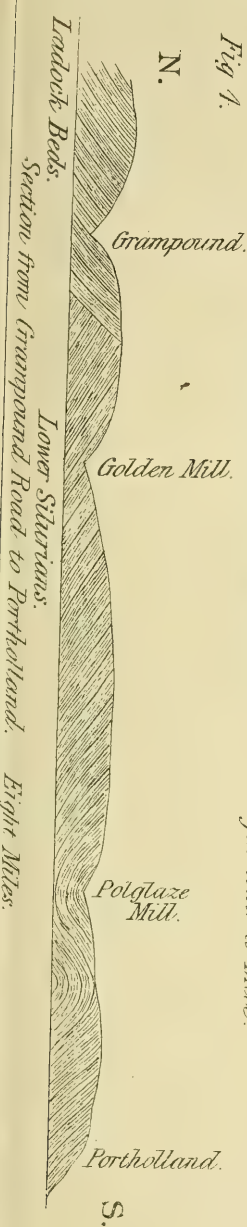
Section showing the conglomerate resting on Lower Silurian Strata, Near Point.

Fig. 3.



Serpentine Hornblende Schist and Gneiss. Section Eastward from Porthalla. Length half a Mile.

Fig. 4.



Lower Silurians.

Section from Grampound Road to Portholland. Eight Miles.

with much assistance from Mr. Clark, our able road surveyor at Truro, who knows nearly every quarry and exposure of strata in the district, I have, I think, succeeded in determining pretty accurately the southern boundary of these Ladock beds, as shewn on the accompanying map. Their northward extension has not yet been accurately made out.

It is quite possible that outliers of these Ladock beds may exist towards Chacewater and Illogan, but if so they are very thin,—and certainly I have not been able to discover any such. To the south of the Helford River, however, an area of several square miles consists of rocks which I believe to have been once continuous with the Ladock beds. At any rate they have the same east and west strike, and both can be shewn to rest unconformably upon Lower Silurian rocks. See fig. 2 pl. A, and fig. 5 pl. B. The area in question is composed chiefly of schistose rocks, but it includes a remarkable bed of very coarse conglomerate which stretches westwards and a little inland, from the Nare Point, towards Trelowarren, as stated by De la Beche. It perhaps appears again at Poljew Cove, on the west coast near Mullion.

Some of the included masses in this conglomerate weigh several tons, and are themselves portions of a still older conglomerate. The materials are in larger masses at the eastern extremity of the bed near the Nare Point, and become finer as they are followed westward.

This conglomerate has been described by Sedgwick, Boase, and others, as containing fragments of hornblende slate, serpentine, and diallage rock, indicating the existence of these rocks in the neighbourhood before the formation of the conglomerate. Sir H. De la Beche, however,—while insisting on the inclusions of hornblende rock, denies the occurrence of diallage or serpentine.* For myself I can only say that I have hitherto failed to find the smallest portion of either of these rocks, and I greatly doubt their occurrence.

The conglomerate has generally a siliceous cementing material, and besides the masses of an older conglomerate already referred to, it includes very large masses of a grey quartzite much

* See *Mem. Geol. Survey*, I, p. 69, and *Rep. on the Geol. of Corn. &c.*, p. 30.

resembling strata of a higher antiquity, hereafter to be referred to. The figure shows its mode of occurrence at the Nare Point.

It would be difficult to estimate the thickness of the Ladock Beds with any approach to accuracy, without devoting a much larger amount of time to their examination than I have been able to give, but the Ladock Valley Section seems to show that they are not more than from 1000 to 1500 feet thick in all.

The Ladock Beds do not appear to include any limestones whatever, and it is doubtful whether they contain a single fossil of any kind. Following the Survey Maps, I formerly regarded the thin black limestones and associated beds of the Van, near St. Austell, and of the Towan Head at Newquay, as of the same age as the Ladock Beds, but I now believe them to underlie these.

“Only two inland localities have been reported as fossiliferous within the area covered by these beds, viz:—at Poltisko near Truro, where Mr. Peach found “part of the stem of an encrinite many years ago” (*Trans. Roy. Geol. Soc. Corn.*, VI, 181), and at Wheal Hope, in Perranzabuloe, from which locality Mr. W. Mansell Tweedy believed he obtained some encrinital stems also many years ago (*Rep. Roy. Inst. Corn.*). These localities, and many others, have been patiently searched by Mr. Clark and myself, but hitherto, we have found nothing of undoubted organic character; indeed the obscure markings which we have found appear to us to have more of a mineral than an organic origin. In the sandstones, however, we have found certain ferruginous nodules occurring in lines corresponding with the bedding, and these contain from a mere trace up to about one per cent. of phosphoric acid, which may, perhaps, be derived from an organic source. I have not, however, been able to detect organic structure in any of them.*

The absence of fossils of all kinds over so considerable an area composed of sedimentary rocks, is certainly a remarkable fact, and it leaves us still somewhat in the dark as to their geological age. All that can be said with certainty is that they were laid down after the consolidation, contortion, and denudation of the Lower Silurian rocks, and, as I believe, the rocks next to

* Collins, Preliminary Note on the Stratigraphy of West Cornwall, *Trans. Roy. Geol. Soc. Corn.* X, 1, 1878.

be described as the Fowey beds; and that they are unconformable with both. This would seem to indicate that they are Devonian, and that the Fowey Beds themselves are Upper Silurian.

Before concluding my remarks on these post-Silurian beds, I must briefly refer to certain well-known fragmentary deposits which are probably of the same age.

A trappean conglomerate occurs close to the Nare Head in Gerrans Bay, which encloses large masses of black limestone. Calcareous conglomerates are also known at Porthluney, near Caerhayes, and at Great Peraver, near Gorran Haven. Hitherto no organic remains have been found in the Nare Head fragments, but those at Porth Luney have yielded "joints and stems of *encrinites* and two sorts of *coral*," together with orthoceratites precisely similar to those contained in the Gorran limestones;* consequently these conglomerates must be newer than the Gorran rocks.

The Fowey Beds. (Upper Silurian.)

Since the publication of De la Beche's "Report," the labours of a considerable number of local geologists, and especially those of my venerable friend Mr. C. W. Peach, have brought to light large numbers of fish-remains from Lantivet Bay, Polperro, Looe, and other localities, as well as many brachiopods, encrinites, trilobites, echinoderms, and corals. These, however, are for the most part either of species which cannot be recognised as occurring elsewhere, or such as may be common to Devonian and Silurian strata. Mr. Ray-Lankester took up the study of the fish-remains of Lantivet Bay some twenty years since, and soon succeeded in showing that they were really remains of fishes, and not sponges (*steganodictyum*) as stated by Mc Coy. Their fragmentary nature, however, seems to have soon disgusted him, and he turned his attention to more promising, if not more profitable, material. He writes me that he found "a species of *Pteraspis*, and probably also a *Cephalaspis*," and believes that "some fish-spines, and a scale like *Holoptychius* have also been found."

* On the Geology of part of the parish of Gorran, by C. W. Peach, *Trans. Roy. Geol. Soc. Corn.*, VI, 237 and 57.

For further information he refers me to Mr. Pengelly, of Torquay, but as Mr. Pengelly had already referred me to Mr. Ray-Lankester on this very point, it will be seen that not much positive information is to be looked for on this important question at present.*

The accompanying list includes as far as is known to me all the species of organic remains hitherto identified *or supposed to be identified* in the rocks which I term "Fowey beds":—they are given here for the convenience of future observers. I believe there are many un-named species existing in the rocks, as well as in the Truro and Penzance Museums.

Name.	Locality.	Authority.†
<i>Actinozoa and Spongida.</i>		
<i>Petraia celtica</i>	Many localities.	C. W. Peach and others.
<i>P. elongata</i>	Fowey, &c.	Peach 1844, Couch, 1846.
<i>P. pluriradialis</i>	do.	do.
<i>P. pauciradialis</i>	do.	Couch 1846.
<i>Amplexus tortuosus</i>	do.	Peach 1844, Couch 1846.
<i>Cyathophyllum</i> sp.	do.	do.
<i>C. Siluriense</i>	do.	Couch 1850.
<i>Favosites polymorpha</i>	do.	Peach 1844, Couch 1846.
<i>F. spongites</i>	do.	do.
<i>F. fibrosa</i>	do.	do.
<i>F. Gothlandica</i>	Polruan.	Couch 1846.
<i>Caunopora ramosa</i>	do.	Peach 1844, Couch 1846.
<i>Fenestella arthritica</i>	do.	Couch 1846.
<i>Retepora infundibula</i>	Fowey, &c.	Peach 1844, Couch 1846.
<i>Echinodermata.</i>		
<i>Platycrinus</i> sp.	Crinnis, &c.	Peach 1844.
<i>Actinocrinus</i> , 30, <i>dactylus</i>	Gribben.	Peach 1844.
<i>Actinocrinus moniliformis</i>	Crinnis.	Fine specimen found by T. Clark and J. H. Collins and now in the Truro Museum.
<i>Cyathocrinus planus</i>	Crinnis, &c.	Peach 1844.
<i>Mollusca.</i>		
<i>Atrypa aspera</i>	Fowey.	Mc Coy, Cambridge collection.
<i>Avicula pectinoides</i>	Polruan.	do.
<i>A. Damnoniensis</i>	do.	do.

* Mr. Peach says Hugh Miller thought one of the Cornish fossils from Lantivet Bay resembled *Asterolepis*, and adds "this is the only specimen Mr. Miller could identify as agreeing with any of the fishes of the Old Red Sandstone. Another Palaeontologist, one of the most eminent, "could not identify one." *Trans. Roy. Geol. Soc. Corn.*, XII, 123. He further states that Mr. Pengelly has a fossil resembling an *Asterolepis* shoulder plate from Cross-sand Point, Looe, *ibid* p. 213.

† The references are to the Transactions of the Royal Geological Society of Cornwall, for the years given, except where otherwise named. Many of the names quoted will appear extremely antiquated to Palaeontologists of the present day, but I have thought it better for the most part to let them appear in their original forms.

<i>Name.</i>	<i>Locality.</i>	<i>Authority.</i>
<i>Mollusca.</i>		
<i>A. subradiate</i>	Polruan.	McCoy, Cambridge collection.
<i>Pecten</i> sp.	do.	do.
<i>Orthis longisulcatus</i>	do.	Pattison 1850.
<i>Streptorhynchus gigas</i>	Polruan.	Davidson, Pal. Soc., XVIII.
<i>S. pesamentosus</i>	do.	do.
<i>Strigocephalus giganteus</i>	Fowey	Peach 1844.
<i>Terebratula reticularis</i> (see <i>Atrypa aspera</i>)		
<i>T. nucula</i>	Polruan.	Peach 1844.
<i>Rhynchonella pugnus</i>	Fowey.	do.
<i>Aerocula</i> sp.	Mellendreth.	do.
<i>Spirifera mesomala</i>	Fowey.	do.
<i>S. obliterated</i>	do.	do.
<i>S. mesaloba</i>	do.	do.
<i>S. speciosa</i>	do.	do.
<i>S. Barumensis</i>	Fowey.	Davidson, Pal. Soc.
<i>Turritella</i>	Polperro.	Peach 1844.
<i>Loxonema</i>	Fowey, St. Columb, &c.	do.
<i>Bellerophon</i> sp.	Gribben, St. Columb, &c.	do.
<i>B. bilobatus</i>	St. Columb Porth.	Peach 1850.
<i>Orthoceras cylindraceum</i>	Fowey.	Peach 1844.
<i>O. bullatum</i> ?	Polperro.	Couch 1850.
<i>O. striatulum</i>	Fowey.	Peach 1844.
<i>O. sp.</i>	Rope Haven.	Fine specimen found by T. Clark and J. H. Collins and now in the Truro Museum.
<i>Conularia quadrisulcata</i>	Gribben.	Peach 1844.
<i>Goniatites inconstans</i>	Fowey.	do.
<i>Tentaculites ornatus</i>	St. Veep.	Peach 1850.
<i>Murchisonia</i> sp.	Polruan, &c.	Peach 1847.
<i>Pisces.</i>		
<i>Cephalaspis Lyellii</i> ?	Polperro, &c.	Peach 1844, Couch 1850.
<i>Asterolepis</i> sp.	do.	Peach 1848, Couch 1850.
<i>Ctenacanthus ornatus</i>	do.	Peach 1844.
<i>C. sp.</i>	do.	Peach 1847.
<i>Holoptychius nobilissimus</i> ?	do.	Peach 1844.
(not <i>H. nobil.</i> according to Murchison ; perhaps <i>Bothriolepis</i> of Egerton).		
<i>Onchus Murchisonii</i>	Polperro.	Peach 1844.
(not <i>O. Murch.</i> according to Murchison, may be <i>Ctenacanthus</i> or perhaps <i>O. tenuirostris</i> of Egerton.)		
<i>Sclerodus pustuliferus</i> ?	Polruan.	Couch 1850.
<i>Sphagodus pristodontus</i>	Polperro, &c.	Peach 1844.
<i>Cheiracanthus</i> ?	do.	Peach 1847.
<i>Scaphaspis</i> ?	Lantivet Bay.	Ray-Lankester 1869.
<i>Phyllolepis</i>	do.	do.

The general fœces of the greatly damaged fauna of the "Fowey Beds," induced Sir Roderick Murchison* to speak of the rocks of this part of Cornwall as Upper Silurian. In arriving at this conclusion he especially took into account the fish-remains.† Since then the question has often been raised, but very little new

* See his letter to Sir Charles Lemon (*Trans. Roy. Geol. Soc. Corn.*, 1846,) and his address as President of the Geological Section of the British Association, (1847).

† "The fish-remains of Cornwall appear to belong to the Upper Silurian" *Rep. Brit. Assoc. Cork*, 1847.

light has been thrown upon it, and, on the whole it may be said to remain in *statu quo*. so far as the evidence from Palaeontology is concerned.

The "Fowey Beds" have a remarkably regular strike to the S.S.E., and a N.N.E. dip, from the Gribben Head to Polperro—a distance of nearly nine miles. How much farther to the* eastward they extend I cannot say, but probably they may reach to Looe, for many similar fish-remains have been found there. Inland, the same beds may be traced between the Bodmin and Hensbarrow granite masses nearly up to Bodmin. The whole area covered by these rocks in this part of Cornwall cannot be less than 80 square miles.†

No very extensive "strike faults" are known between Fowey and Polperro, except that which forms the iron lode at Restormel. This runs nearly N.S., and has an eastward underlie, like most of the great cross-courses of Cornwall. The downthrow here cannot exceed a few hundred feet. As the north-eastward dip is observable for over six miles, and averages certainly not less than 26° , the total thickness of the "Fowey Beds" can hardly be less than two miles.

This great series of beds is mostly of a slaty character—a dull-greyish brown being the prevailing colour. In some parts,—as in several quarries in the parish of St. Veep, these pass into a yellowish or reddish sandstone, containing numerous fragmentary fossil markings, among which are a good many echinoderms, sometimes tolerably well-preserved.

Westward the Fowey beds are cut off by the Hensbarrow granite, but they appear to rest upon Lower Silurian rocks in the neighbourhood of Mevagissey, and perhaps also at the Blackhead. To the northeast they appear to underlie the beds with an E.W. strike, which fringe the southern side of the Bodmin granite, and these latter, having been lifted up previous to

* This dip is marked correctly in the Survey Maps but by what is probably a slip of the pen, the *strike* is said to be N.N.E. in the text of De la Beche's "Report," (p. 80.)

† Hitherto the discoveries of fish remains have been mainly confined to the coast sections, inland exposures of the strata being somewhat rare, and inland observers still rarer. Mr. Pengelly, however, has found "very excellent specimens" in a light-coloured schist at Cliff in the parish of St. Veep. (*Trans. Roy. Geol. Soc. Corn.*, 1850, p. 80.)

or during the extension of the granite, form a considerably more elevated tract of country than the Fowey beds.* The deep valley of the Fowey river seems to have been excavated for several miles along the line of junction of the two series of beds.

The Lower Silurian.

The Ladoek beds and the Fowey beds rest unconformably upon a great series of schists and conglomerates, often of very similar petrological and lithological appearance, and which have a very regular S.W. strike. There is no doubt as to the age of these rocks, they are known to be Lower Silurian, but their extension in West Cornwall is very much greater than has been hitherto supposed; since they have been traced southward to St. Keverne, and westward to Penzance. The great bulk of this series consists of tolerably hard, thin-bedded rocks, mostly of a dark grey or dark blue colour; sometimes passing into an inferior roofing slate, at others into soft sandy shales.

Many of the beds are decidedly to be regarded as conglomerates, as may be well seen at the two Nare Heads, and on the coast between Portholland and Port Luney.† In this latter locality the total thickness of the conglomerate cannot be less than 2000 feet.

Besides these great beds of siliceous conglomerate, the beds which possess the most distinctive character in this series are certain moderately thick beds of quartzite, a small number of thin lenticular masses of black limestone, many beds of highly silicified slate usually known as greenstone, and until lately supposed to be volcanic, and a number of thin beds of hornblende schist and dark-green serpentine.

Hitherto the siliceous conglomerates have yielded no fossils

* There is no doubt whatever as to the unconformability of the two sets of rocks—but the evidence of superposition is not so clear as could be wished.

† Nearly the whole coast section from Portholland to Port Luney consists of one great mass of conglomerate, which dips to the S.E. at an angle of about 30° at an average. The distance is about $\frac{7}{8}$ ths of a mile, but as the beds are crossed obliquely, the real thickness is pretty nearly what I have stated above. In this conglomerate, as is usual with the old detrital rocks of Cornwall—the fine-grained basis composes the greater part of the rock, pebbles and sub-angular masses of pre-existent rocks somewhat sparsely scattered through it. Many of the fragments closely resemble the rocks of the Lizard district.

whatever—indeed the character of the rocks would render their occurrence a matter of extreme improbability, except, of course, in the included blocks.

The grey quartzites of the parishes of Gorran and Verman have often been referred to by local writers, and they were long ago found to be fossiliferous—and the fossils are undoubtedly Lower Silurian; a year or two since similar fossils were found in the quartzites of the Meneage peninsula, south of the Helford River, as described in my recent paper presented to the Royal Geological Society of Cornwall.* The fossils found are chiefly brachiopods of the genus *orthis*—together with one or two trilobites and an orthoceras.

Mr. C. W. Peach, in the year 1844, gave a list of species then in his possession, which included no fewer than nine species of *Orthis*, two of *Atrypa*, and one *Leptæna*.† These specimens however—which are now in the Museum of the Royal Geological Society of Cornwall—together with a large number of specimens from other collections, have been recently examined with very great care by Mr. Davidson, our greatest authority on the brachiopoda, and he states, in a private communication with which he has lately favoured me, that he is only able to make out 5 species of *orthis* and one *strophomena*. He finds neither *Leptæna* nor *Atrypa*. If we add to these 6 brachiopods, one doubtful echinoderm (*sphaeronitus tessellatus* according to Peach, *loc. cit.*); one, or two species of *Orthoceras* (un-named as yet) and perhaps two trilobites (one supposed to be *Calymene Sternbergii* by Peach, and the other perhaps an *Homalonotus*); we have mentioned all the fossils hitherto known as occurring in the quartzite. On the whole it will, I dare say, be admitted that the quartzites may be on the same geological horizon as the Caradoc Sandstone of the typical Lower Silurian area—and as they occur near the top of our 4 or 5 miles of Cornish Lower Silurians, we have ample material beneath to supply all stratigraphical needs.

The limestones usually occur in very thin and irregular beds of no great extension either in strike or dip? They contain numerous fragments of encrinites, and of one or more species of orthoceras.

* On the Geological Structure of the northern part of the Meneage peninsula. *Trans. Roy. Geol. Soc. Corn.* X, p. 47.

† *Trans. Roy. Geol. Soc. Corn.* VI, 1846.

I am not aware that any of the other remains found in the limestone have been named at all. Like other ancient limestones some of these which, to the unassisted eye, shew no signs of organisms, when viewed under the microscope in thin sections are found to be full of them.

These limestones are found at Nelly's (or Betsy's) Cove, one mile north of Porthalla,* at Gerrans Bay,† at Polgrain in the parish of Caerhayes,‡ and at Gorran Haven.

The schistose rocks of this series have yielded a few corals, the most common among them being *Petraia Celtica*. The dark slates of the Black Head have yielded Graptolites, according to Mr. Peach,§ and very recently my son has found what appears to be a *Favosites* in a soft greyish schist at Lower Newham, near Truro, which appears to be of Lower Silurian Age.||

* *Trans. Roy. Geol. Soc. Corn.* IX, pp. 11, 12; President's Address, 1870, and X, p. 52.

† *ibid.* X, p. 5, 1878.

‡ The thickest mass which I have seen crosses the road at Polgrain, near the church of St. Michael Caerhayes. There are here two beds—the largest being about 20 feet thick. In a cavity I found crystals of Aragonite—a rare mineral in Cornwall.

§ *Trans. Roy. Geol. Soc. Corn.* III, p. 121.

|| Mr. P. M. Duncan was kind enough to examine some of the specimens of this coral which I sent to him—and to write me upon them as follows:—

“The schist was very difficult to manage, but I got some sections at last.....the markings on the surface of the planes of the schist greatly resemble infiltrated corallites of *Favosites* or some other tabulate *Hydrocorallæ*—moreover, where the markings are oblique they fit in very well as far as appearance goes, with the walls and tabulæ of the genus. No perforations are indicated. On the whole, I should say it was a metamorphosed coral.” Examined *in situ* this supposition becomes greatly strengthened. The markings are seen to pass through many layers of the schist, and sometimes occur in distinctly formed semi-circular masses.

The schist is extremely fragile, but organisms occur very plentifully in a thin bed of considerable extent. If this be an ancient coral reef, of which there can be but little doubt, the analysis which I have made indicates a very remarkable amount of metamorphism, only 0·8 per cent. of lime being now present in the stone. At the same time *this* is a considerably higher proportion than is usually present in the rocks of the neighbourhood. (See *Journ. Roy. Inst. Corn.* xxx, p. 408).

The accompanying list includes all the Cornish Lower Silurian fossils as far as they are known to me—as well as several which are still doubtful.

The references are to the *Trans. Roy. Geol. Soc. Corn.*, except where otherwise stated.

Name.	Locality.	Authority.
<i>Actinozoa, &c.</i>		
<i>Petraia celtica</i>	Black-head, Gorran	Peach and others.
<i>Favosites</i> sp.	Porthalla	Peach, <i>Trans. R.G.S.C.</i> ix, 1852.
Ditto	Lower Newham	P. M. Duncan. 1879, private communication.
<i>Echinodermata.</i>		
<i>Sphaeronites tessellatus</i>	Caerhayes	Peach, 1844.
Encrinal stems	Caerhayes, &c.	Peach and others.
<i>Mollusca.</i>		
<i>Loxonema lineata</i>	Gorran	Murchison, 1846.
<i>Orthoceras cylindraceum</i>	Caerhayes	Peach.
<i>Strophomena grandis</i>	Gorran, &c.	Davidson, priv. com. 1879.
<i>Orthis calligramma</i>	do.	do.
<i>O. scotica</i>	do.	do.
<i>O. Budleyensis</i> (<i>O. Peachii</i>)	do. and Manaccan	do.
<i>O. Berthoni</i> var <i>Cornubiensis</i>	do. do.	do.
<i>O. sp.</i>	do. do.	do.
<i>Crustacea.</i>		
<i>Calymene Tristani</i>	Gorran, &c.	Salter, <i>Pal. Soc.</i> xvii, Pl. ix, 15-18.
<i>Homalonotus bisulcatus</i> ?	Gorran	Salter, <i>ibid.</i>
<i>Phacops mimus</i> Gt. Pecaver		Salter, <i>ibid.</i> Pl. 1.

The following trilobites have been recorded, but are of doubtful occurrence:—

Calymene pulchella—recorded by Murchison, 1846.

C. Sternbergii—mentioned by Peach, 1844, doubted by Murchison, 1846.

C. Blumenbachii—mentioned by Murchison and Couch, but recorded by Salter.

The pseudo-greenstones referred to above occur in several places, the best-known locality being close to Terras Bridge, in the parish of St. Stephens. This bed was analysed and described by Mr. J. A. Phillips, in 1876, as probably an altered ash-bed, or hardened hornblende slate.*

Some of the so-called greenstones of the Mount's Bay are also merely altered slates, although others are undoubtedly intrusive igneous rocks.

The interstratified hornblendic schist and serpentine of Porthalla were mentioned in my paper on the Meneage peninsula already referred to, and they are represented in the accompanying section (Plate A). The strike of the whole series of beds in this place is to the N.E., and they are all quite conformable with each other—there being no indications whatever of intrusion so far as I was able to see in three careful examinations.

The S.W. strike is very regularly maintained by the rocks which I have coloured as Lower Silurian on the accompanying map. On the south side of the granitic chain they are very thick,

* *Quart. Journ. Geol. Soc.* May 1876, pp. 175-178.

and dip mostly to the S.E., although there are some foldings, as shewn on the accompanying sections. On the north side of the granite bosses these rocks thin out greatly, and are mostly horizontal or very nearly so.

The south coast crumplings were obviously produced previous to the laying down of the Ladock beds. The crumpling has evidently been produced by a force acting at right angles to the line of strike—*i.e.* parallel to the line of granitic upheavals. The folds were probably produced in part by these upheavals—but chiefly by another axis of upheaval parallel to this granitic axis now entirely submerged. This second line of upheaval was probably from 25 to 35 miles to the south of the present coast—it was long ago suggested by Sedgwick and Murchison,* Godwen-Austen,† and others. A line so situated would pass beneath the Eddystone rocks, and would account for their very high degree of metamorphism.

In my paper on the Meneage district already referred to, I have brought forward evidence to prove that the Lower Silurian rocks in Cornwall are at least 23,000 feet thick, and the Veryan and Portholland Sections tell the same tale.

The Ponsanooth Beds. (Cambrian?)

The Ladock beds have been deposited upon the denuded edges of the uptilted Silurian rocks. The unconformability is sufficiently proved by the manner in which the very persistent and regular strike of the beds is seen to suddenly change—although the actual unconformability may not be visible in many clear-cut rock sections. (See, however, Figs. 1, 2, 4, Plate A, and Fig. 5, Plate B). The line of junction of the beds is very frequently obscured by the occurrence of a valley, the position of which has been determined by that very junction. In such

* "On the Physical Structure of Devonshire, &c." *Trans. Geol. Soc. Lond.* II, v, 662; and "On the slate rocks of Devon and Cornwall. *Quart. Journ. Geol. Soc.* viii, 9.

† "On the possible extension of the Coal Measures beneath the south-eastern part of England." *Quart. Journ. Geol. Soc.* xii, 45. See also "The Metamorphosis of the rocks extending from Hope's Cove to Start Bay" by Mr. Pengelly. *Trans. Dev. Assoc.* 1879.

cases the strike and mineral character of the rock is often found to change in a very marked degree on crossing the most insignificant stream.*

The actual unconformability of the two sets of rocks may however be seen in many places, as, on the coast a little south of Pentewan, and also at Chapel Point, near Mevagissey.

A very fine unconformability is visible on the south side of the Helford River—near the Nare Point, where the conglomerate may be seen dipping very gently to the south and resting upon nearly vertical dark slates, having a strike to the N.E. as shewn in the figure (Fig. 2, Plate A).

I have now to draw attention to a series of rocks of a still older date than the Lower Silurians just described, the existence of which has hitherto not been even suspected.

On the Survey Maps these are marked and coloured as Devonians although their dip and strike are usually marked correctly; as a matter of fact they underlie the Lower Silurians, and their strike is at right angles, or nearly so, to that of the latter series.

At dead low water, on the coast to the S.W. of Pentewan, several outcrops of very hard siliceous rock, having a strike to the north-west may be seen. These I fancy may have been brought up by a fault or series of faults, the locality being one of great disturbance. However this may be, similar rocks appear from beneath the Lower Silurians in the East Wheal Rose Valley, and come out on the coast at Penhale Point, between Perranporth and Holywell Bay, where they are vertical—but with a N.W. strike.

A great part of the country between Devoran and Ponsanooth is occupied by rocks having a similar strike and a steep N.E. dip, and the Lower Silurian rocks may be seen resting upon them in the river just below Devoran (Fig. 6, Plate B), at Feock, in the roadside not far from the church; and at the southern end of Ponsanooth tunnel between Perranwell and Penryn. The beds

* The reason for the occurrence of valleys in such situations is not far to seek. Springs of water frequently break out in such places, and even when this is not the case, a chemico-galvanic action often renders the beds near a junction of two even slightly dissimilar rocks softer—and less able to resist the atmospheric denudation.

are particularly well developed in this latter locality, and it may be convenient to derive their provisional name from here.

The black rocks of the Lelant cliffs, and the mica-schist of the Old Lizard Head have the same strike; the former dip to the S.W., and the latter to the N.E. They will probably prove to be the out-cropping edges of a trough lying still further to the west than the beds which are nearly vertical at Ponsanooth.

The greater part of the north coast between St. Agnes and St. Ives appears to be composed of these pre-silurian rocks, the Lower Silurians having thinned out northwards.

In these rocks up to the present time neither sandstones nor limestones have been observed, nor have any fossils been discovered. That they are Pre-silurian is certain, they are probably Cambrian—but it may be better to speak of them at present as the Ponsanooth beds. They are all extremely ancient in appearance, generally very siliceous and rough to the touch, except where they are black and carbonaceous, or where scales of mica or talc have been developed between their laminæ.

These rocks may be traced from Ponsanooth to Nansilgans, a distance of about 5 miles in a straight line, in which the dip is everywhere to the N.E. at an average angle of 45° for the first 2 miles, and of 20° for the last three miles. The total thickness can hardly be less than 12,000 feet.

As is the case with the Lower Silurians these Pre-silurians include a number of very highly altered beds which have been hitherto regarded as greenstones, and some of them are so marked on the Survey Maps. Among the most important of these are the beds situated near Tresavean Mine, in Gwennap, which are largely worked as road-stone. In hand-specimens some of this rock certainly does resemble an aphanite, but the distinctly banded structure which is visible in the quarry suggests stratification, and there is no appearance of intrusion to be seen. Under the microscope the sedimentary origin of these rocks is usually plain enough, but crystals of hornblende, magnetite, garnet and axinite, are frequently developed between their laminæ.

A band of what appears to be true gneiss, nearly half-a-mile in width, has also been developed in these Pre-silurian rocks near Penryn, close to the junction of the killas and granite.

Succeeding this is a considerable thickness of "spotted killas"—a true "knoten-schiefer." Mostly the particular mineral forming the "spots" or "knots" cannot be determined, but occasionally they have the appearance of very imperfectly formed garnets, and chiasolite crystals have been recognised in the schists of Carn Brea Mine, St. Ives, St. Erth, Lelant and many other localities.

These highly metamorphosed strata have no doubt been produced by the closely contiguous granite masses, and as might be expected, strata of different ages—and therefore presumably of different original chemical or mechanical natures, have under the influence of this common external agency, given rise to different kinds of metamorphism. Thus—as a rule, spotted schists are developed from the Pre-silurian, and tourmaline-schists from the Lower Silurian rocks of West Cornwall, where they come in contact with the granite masses.

Intrusive Rocks.

Each of the formations just described affords abundant evidence that it has been upheaved, contorted, and extensively denuded away before the deposition of its successor—indeed it has no doubt furnished a considerable part at least of the material from which that successor has been formed. With the possible exception of the Fowey beds, each too has been subjected to the intrusion of igneous rocks before the extrusion of the granite. Thus, the Ladock beds and the Lower Silurians were traversed by the remarkable dyke of mica-trap first noticed by Mr. A. K. Barnett,* then analysed by Mr. J. A. Phillips, † and afterwards analysed, figured and described by myself. ‡

The Lower Silurians are traversed by many undoubtedly intrusive dykes—among which I especially mention the trappean mass of the Nare Head, with its associated gabbro and serpentine, the diorite of St. Mewan, near St. Austell, and the remarkable series of partially interbedded diorites which form

* *Report Miners' Assoc. of Corn. and Dev.* 1873.

† *Quart. Journ. Geol. Soc.* 1875, p. 335.

‡ On the Trelissick Elvan, &c. *Trans. Roy. Geol. Soc. Corn.* ix, 221.

such remarkable features in the coast line from Marazion to Prussia Cove.

The Ponsanooth beds have their own pre-granitic intrusive rocks—which are especially well developed in the neighbourhood of Penryn.

At a period much later than the last of these intrusions, the several granitic masses were thrust through the complex mass of highly contorted and greatly altered stratified rocks—probably by many partial movements, and even at several distinct dates. These movements have been followed by the intrusion of the porphyritic dyes known as “Elvans,” which cut through the granite also. Still later, the whole country has been very extensively fissured—at ten or twelve distinct periods—and these fissures have become filled with various mineral substances, often in successive layers. Local metamorphism is often very evident, not only in the neighbourhood of intrusive rocks, but also in the vicinity of the fissure-veins but I merely refer to these complicated phenomena here, in order to fix their places in the sequence of time. Any description of them in detail would be foreign to my present purpose.

Conclusion.

In the foregoing rapid sketch of the stratigraphy of Central and West Cornwall, I have brought forward evidence to prove that the country southward and westward of the Bodmin Granite is composed of no fewer than four distinct sets of stratified rocks of very different ages, and not of two kinds only as shewn on the Survey Maps; and moreover, that the boundary line of the Lower Silurian rocks on those maps is entirely and very extensively inaccurate. I may add that the Survey Maps themselves, rightly interpreted, very strongly support this conclusion.

If it be asked, how it is that this important discovery has only now been made? I reply that it would, I believe, have been made long since, but for two most unfortunate assumptions.

The early geological observers in Cornwall first assumed the unity of all the rocks called by the miner “Killas,” and then accounted for every marked variation of dip and strike in this killas by referring it to the intrusion of the granite. Thus, most writers follow De la Beche in speaking of the killas

as "curving round" the granite masses, and a map of the strike of the Cornish Rocks has been published,* in which they are represented as folding around the various masses in such a way as to frequently indicate several miles of horizontal displacement of the stratified rocks. Nothing could be farther from the truth. That the granite sends veins into the killas at the junctions of the two rocks is of course well-known. It is also a fact that where the junction happens to coincide with the strike of the killas, this is sometimes tilted up at high angles; but very frequently, as at Cligga, Trethowel, Wheal Burn, Ponsanooth, and many other places, the granite—in its last movement at any rate—has been as it were punched up through the killas, carrying upon its back thick masses of stratified rocks which have since been denuded away. The strike of the rocks is indeed very rarely altered by the intruding masses—it is only different near the granite from what is observable at some distance off because the older rocks are there brought up to the surface by the general upheavals which no doubt preceded the actual granitic extrusions. The annexed figure shews (Fig. 7, Plate B) how entirely unaffected is the strike of the killas by the granitic mass of Carn Menezes, at Ponsonooth. Similar examples might be given by dozens.

As these comparatively large masses have so little effect in altering the strike of the sedimentary rocks, it was not to be expected that the elvan porphyries would have any effect on the strike—as they only occupy fissures. In a majority of cases these elvans run nearly parallel with the strike, but either with a higher or an opposite dip. In a few cases, however, they cut across the beds nearly at right angles with the strike.

The various trappean rocks, usually if not always much older than the granites, have most frequently been pushed between the beds, often for several miles together—and are only occasionally seen to cross them distinctly.† This different mode of

* *Trans. Roy. Geol. Soc. Corn.* vol. vii.

† That they were so thrust between the beds and not poured over them is further evidenced, by the fact that there is no perceptible difference in the alterations of the beds lying above and those lying below the masses in question.

occurrence is exactly what might be expected if the trappean rocks were injected while the pressure of rock above was comparatively little, and the porphyries when it was very great ; in other words the elvans are more decidedly plutonic than the greenstones.

Although the mechanical effects of the various intrusions are so slight, the same cannot be said of the chemical effects. These are everywhere visible, they differ in their nature in different places, and the intensity and extent of the metamorphism seems to be somewhat proportioned to the extent of the intruding mass. As to the different nature of the alterations produced in the sedimentary rocks near the junctions, the gneiss and spotted schist of the North Coast, near Portreath, and the tourmaline schist of the Wheal Vor Valley and of the Hensbarrow granite are good examples. As already observed, part of the difference is no doubt due to the originally different nature of the schists themselves, and part may be traced to the subsequent circulations of Mineralized Waters through the weakened and loosened junctions. Much limestone may have been in this way removed by the action of acid (siliceous) waters. This would account for many minor irregularities in the stratified rocks—owing to the collapse of the unsupported beds on either side. Many of the beds are highly silicified throughout in the neighbourhood of the fissures, owing to the long-continued action of such waters.

With regard to the relative extent of the changes produced—these are greatest in the neighbourhood of the granitic bosses, and least in that of the elvans, which is quite in accordance with the differences in bulk of the several intrusive masses. Much more might be said on this interesting topic, but to do so, would make this paper too long.

Speaking generally, it may be said that as we go westward the rocks met with are older and older. This is just what we might expect from what is known of the mechanical movements to which they have been subjected.

Although, as a rule, the faults of Cornwall do not appear to be of the first magnitude, yet some of them are of considerable extent, and as they generally occur in series, the downthrows being mostly in one direction, the final result is great. Thus,

between Perranporth and Portreath, a distance of nine miles, no fewer than 13 considerable north and south faults (cross-courses) are known, besides many minor ones, nearly all of which have their downthrows to the eastward; consequently, the geological horizon of the Portreath rocks is considerably below that of the rocks at Perranporth.

One of the faults, the most eastern of the series, is known to produce 600 feet of vertical displacement, and those which occur at Porthtowan, Tobban Cove, and Gayack Cove, are little less extensive. The total vertical displacement in the nine miles referred to cannot be less than one mile, and may be as much as two miles.

Going east towards Padstow, these N.S. faults with eastern downthrows are still met with very frequently, and the total vertical displacement between Portreath and Padstow will be very moderately estimated at 15,000 feet.

The existence of so many eastern downthrows suggests that the western land was at one time the highest. It is now lower by several hundred feet. This would seem to indicate a greater amount of denudation westward, and a consequent exposure of the older strata as we see them in fact. That the original deposits were thicker westward is indicated by Mr. Sorby's experiments on the fluid-cavities of the Cornish granites. Mr. Sorby's conclusion was, that the granite of St. Austell solidified under a pressure equal to that of 32,400 feet of rock, while in the case of Ding Dong Mine, near Penzance, the pressure was equal to 63,600 feet. Carn Menezes being in an intermediate position, the pressure also was probably between these limits, or say 50,000 feet, which would agree very well with the estimate which I have made of the total thickness of the stratified rocks, viz: 46,000 feet.*

The actual vertical pressure of those portions now existing was probably never so much as this, as one set became crumpled

* This is for the thickness of the rocks between Lostwithiel and Ponsanooth, viz:—

Fowey Beds	...	...	...	...	...	10,000
Ladock Beds	...	...	...	...	...	1,000
Lower Silurians	...	...	...	...	...	23,000
Ponsanooth Beds	...	...	...	...	...	12,000
						<hr/> 46,000

before another was deposited; but, as a great thickness has no doubt been entirely denuded away, the over-estimate on the one hand would tend to balance the under-estimate on the other.

This vast thickness must have been lifted up by the granite, and has since been denuded away—together with, we know not how much of the granite itself. As, however, the protrusion of the granite was certainly not later than the end of the Carboniferous period in Devon, and probably about the same in Cornwall, ample time has elapsed to allow of this large amount of denudation.

As to the time occupied by the deposition, contortion and denudation of this vast thickness of strata, very little need be said here. That the different series differ very greatly in age is sufficiently evidenced by the fact that there was in each case time enough for the great lines of pressure in the earth's crust to change their direction,—at first, between the Ponsanooth beds and Lower Silurians about 90° , then between them and the Ladock beds 45° , and again by the time the Fowey beds came to be crumpled— 45° .

Even the deposition of such a great thickness of rocks, if not interrupted, would necessarily occupy an enormous interval of time, as the detrital matter would have to be worn away from then existing land surfaces.

I fully admit that many of the beds bear evidence of rapid accumulation, as for instance the coarse conglomerate of the Nare Point, the finer mass, 2,000 feet thick, of Portholland, and the still finer sandstone beds with cross-bedding of Ladock. But the mere production and transport of such immense quantities of detrital matter must have occupied long ages, and these no doubt alternated with at least equal periods when the whole region was exposed only to atmospheric agents of destruction.

NOTE ON A HUMERUS OF A BALÆNOPTERA PHYSALUS—GREAT
RORQUAL WHALE—FOUND AT PORT HOLLAND.

By HAMILTON JAMES,—*Member.*

The Bone which I have the honour of bringing under your notice, was found on the beach at Port Holland, in this county, the twenty-fifth day of October, 1880, about twenty fathoms below high water mark, on a day succeeding that on which a violent disturbance of the sea off that coast occurred, which circumstance was considered to be of sufficient importance to be reported to me at the time by a fisherman of the district as being unusually violent; during that night several hundred tons of cliff fell there, and the spot where this bone was picked up was just beyond the dèbris of this fallen cliff and the then receding waves which were supposed to have washed it; there can be little doubt, however, but that this commotion in the waters of the previous day disturbed it from its ocean bed in the submerged forest known to exist off that coast.

It was at once seen to be the bone of a Mammal, and subsequent investigation proves it to be the humerus of the great Rorqual or razor-back whale, the largest of the Cetacea, as well as the largest animated being known to have lived on this planet.

Mr. Matthias Dunn has submitted the photograph of it to Dr. Francis Day, H. M. inspector of fisheries for India, who has shown it to Professor Flower, who has just been delivering a course of lectures on the Cetacea at the College of Surgeons; they confirm this opinion, and professor Hunt has found two engravings in a Belgian work so like that they might have been drawn from this identical bone.

It weighed fifty-three pounds, and is twenty inches in length, being thirty-nine inches in circumference in its broadest part, and probably was originally longer, and is always an interesting part of the whale, from the continuation of the pectoral fin, which is developed internally precisely corresponding to the arm and hand of man; this is one of the most interesting joints in our system, and you will recognise the resemblance at the large



HUMERUS OF A BALÆNE, OR GRAY WHALE, FROM THE FORQUAL WHALE.

Phoca barbata, *Walbaum*, *Rept. Ichth. Mar.*, 1806.

Weights fifty-three pounds; length of the bone, thirty-four inches in circumference in its broadest part.

end, where it is articulated to the scapula, the other two arm bones, radius and ulna, being continued from the smaller end, the fin, which is often more than ten feet in length, appears to be used exclusively by the animal for rising in the water for the purpose of respiration, the caudal fin being capable of propelling the creature at the enormous speed which it is known to attain.

These whales are not unknown on our coast, I saw a baby one in 1850, which was captured at Polperro on the eighth of May; the little fellow was fourteen feet long and seven feet eight inches in girth, weighing just one ton, very diminutive compared with the full grown animal, which attains one hundred feet in length and thirty-five in circumference, weighing about 250 tons, and yielding 4,000 gallons of oil; another whale was washed ashore near the break-water at Falmouth, in 1863.

In January, 1875, another was found dead about nine miles from land and towed into a cove W of Mevagissey, it was sixty two feet long, thirty-six feet in girth, with a breadth of tail thirteen and a half feet, pectoral fin eight and a half feet, and jaws fifteen feet, the length of the cavity of the eye was fourteen inches, lower jaw twelve inches longer than the upper; this whale containing 350 plates of whalebone on either side, but neither of these are large enough to represent the once owner of this bone.

I have seen the skeleton of the big whale at the College of Surgeons, the humerus is much smaller, as well as that of a little sperm whale.

So recently as the end of last year, a Rorqual was stranded on the island of Lewis in the west of Scotland, said to have been 105 feet in length; the bones of whales are extremely difficult to procure, consequent on the large amount of oil they contain; but this bone, I imagine, must have got rid of its oil long ago; I venture no opinion on its age. Professor Hunt writes: "you can only ascertain its being fossil or otherwise by a very careful and minute examination." The man who picked it up being of an inquiring disposition, attempted to saw it, in which attempt his saw had the worst of the encounter. We have the fossil vertebra of a whale in our museum, found in the Pentewan valley; should this be of a like age I must claim for

it some value as a relic of the past, the waves then as now may have dashed against these silurian cliffs in the little Veryan cove, and storms raged in Gerrans Bay in which this creature sported, but

“No ship went over the waters then,
No ship with oar or sail,
But the wastes of the sea were habited,
By the Dragon and the Whale.”

It is but an old bone, and it is easier to be jubilant than humerous over it, it was rather a great find and is certainly a Cornish bone, and I wish our Society, a Society which sees

“Tongues in trees, books in the running brooks,
Sermons in stones, and good in everything,”

to accept it, feeling sure if there is any symmetry in its outline, or elegance in its form, it will be here recognised, and it may have its use, in the far future, when the donor and the imperfect history he has attempted to attach to it this day, are both alike forgotten, maybe, some antiquarian searching the room upstairs may rake it out of a musty corner, and find in it a “thing of beauty and a joy for ever.”

A LIST OF BRIEFS PUBLISHED IN THE PARISH OF MAWNAN,
A D. 1707—51.

BY THE REV. W. ROGERS,—*Member.*

[ABSTRACT.]

Briefs alluded to in the rubric, after the Nicene Creed in the Book of Common Prayer, were letters patent issued by the Sovereign directing the collection of alms for the objects named in them, such as the building and repairing of churches, losses by fire, etc. Owing to the abuses which crept into the system, Briefs were abolished in 1828.

The Briefs for Mawnan are entered in two paper leaves at the end of a parchment Register of Baptisms, Marriages, and Burials, which commences in 1698. Joseph Trewinnard, who entered them first, was rector of Mawnan until 1717, being succeeded by William Peter, who was rector until 1750. The entries do not give the sums collected, but the dates on which the briefs were published and collected from house to house, and the object for which they were issued.

As might be expected there is a long list of Churches for which aid was asked, Landaff Cathedral heads the list, and amongst others are Lisburn Church in Ireland. Tower of Buckingham, St. Nicholas. The steeple of the parish Church of Herrington, St. Mary Redcliffes, Bristol. The parish Church of St. Nicholas, in the Borough of Warwick, etc.

Collections for losses by fire are numerous, and amongst other curious entries are the following, a brief for "at the head of the common gate in Edinburg north Britain," for the reformed episcopal churches in great Poland and Polish Russia. Sufferers by Thunder. Folkeston Fishers and St. Andrew's harbour.

RURAL NOTES.—PARISH OF KEA.

By THOMAS CRAGOE, F.R.G.S.—*Member.*

There is not, perhaps, a shrub common to Britain altogether more beautiful and interesting than the Common Barberry—*Berberis Vulgaris*, with its simple, but richly drooping racemes, and bright tinted foliage, yet this plant bore in the old times, as it does to day, an evil reputation.

Yes, witchcraft has passed away from the statute-books of England, and the mystic touch for King's-evil has passed from living memory, yet, to the bright and cheerful Barberry dark odium still clings as stubbornly as when Queen Anne ruled these kingdoms, and really, when all the evidences are fairly heard, it seems not without reason that the toiling husbandman, labouring to perfect his crops, should hold the Barberry or Piperidge bush almost an accursed thing in its mysterious, but apparently intimate connection, with the blight or rust in wheat.

In the "lower end" of this parish, that lovely region of Kea which skirts the river, where almost every growth attains a degree of perfection unknown to the higher platitudes of inland parishes (though but a few miles removed), and where almost everything finds, in luxuriant shape, a manifold increase, strange to say wheat is greatly liable to mildew, or rust, and here also the Barberry abounds: and not only does it abound, but a most remarkable concurrence of testimony goes to prove that where a patch of rusted wheat is seen, there, in the neighbouring hedge-row will the unlucky Barberry bush be found.

There is a well known field on Lanner hills, not a mile from the river side, commanding an airy situation, whose northern fence absolutely bristles with the deep-set triple spines of *Berberis Vulgaris*, and for generations this field has borne so bad a name for wheat that it has been allowed to over-run its ordinary turn for that crop, time after time.

However, once again the sower ventured forth—it was last autumn—and wary of the foe, gave a wide margin of Oats up the northern fore-end (oats not being subject to rust), and

then casting forth his wheat awaited the harvest with confidence.

Now it must be borne in mind that rust follows wet seasons, and rather affects low-lying shady enclosures. Indeed, the English Encyclopedia informs us that this blight is "injurious only in wet seasons," and a drier summer than this, (1880) in England generally, has been rarely known; moreover this corner of the kingdom was especially dry through the summer months, the neighbouring town of Falmouth, I believe, registering more hours of sunshine than any spot in the kingdom save Pembroke, and as already remarked, the field in question stands remarkably high and airy.

What has been the result? This is the first week of harvest: the oats are bright—but a more blighted crop of wheat may not be seen—the straw rusted, ruptured, rough and black.

I walked over and viewed the northern hedge. An impenetrable thicket of Barberry! And the farmer is quite assured in his mind whence the enemy came.

The belief in the evil qualities of the Barberry is time honoured.

In the old Encyclopedia Britannica it is said "the Barberry should never be permitted to grow in corn lands, for ears of wheat growing near never fill," and it is added that "its influence extends across a field of 300 or 400 yards."

In the early editions of Sowerby, published towards the close of the last century, the evil fame of the Barberry is alluded to, and it is remarked, should the charge be true, it is one of the most mysterious operations in the whole field of natural phenomena.

It is true the Barberry is itself subject to a fungus, *Æcidium Berberidis*, whose orange-coloured spores afford a striking contrast to the foliage, but of *another species* is the mildew of the wheat, *Puccinia Graminis*, which lodges within the structure of the culm, and its sporules have been thought more likely to be carried up from the earth with the current of vegetation, than to be imbibed, as it were, through the epidermis, or cortical pores, from *Puccinia* spores floating in the atmosphere, much less from floating spores of the *Æcidium Berberidis*; though, some still hold it as probable, that these last may in some

unknown way set off the action of the *Puccinia* and so promote mildew in wheat.

Indeed my neighbours, regarding the hard reality of their experience, are not to be moved from their convictions; and scientific research has been often found to corroborate popular beliefs at the same time that it has helped to unveil the mystery.

Whether this may come to pass respecting the seemingly close but unhappy relationship between our wheat fields and our Barberry hedges, who can say? but one wonderful property of the Barberry bush in flower is easily made manifest before the harvest time.

The stamens are endowed with a marvellous sensibility; and if they be ever so daintily touched with the point of a needle toward the base of the filament, as they lie snugly ensconced in the golden lap of either concave petal, the irritable stamen at once rises from its soft repose, and bending gracefully forward, its fruitful head closes on the pistil, and after the lapse of a few hours the experiment may be repeated again and again.

Like the "armed hand" of *Cynosurus Cristatus* and the elastic corolla valve of *Lolium Perenne* this is one of those beautiful and striking arrangements of providence which is calculated "to awaken reflection in the mind of a ploughboy."

The Barberry petals, when expanded, carry the anthers in their laps so far from the stigma, that they might not perform their office without some peculiar provision. So 'tis when the sun shines brightly on the little stores of golden dust, mounted on each tiny thread of the six stamens, that those threads are most lively and elastic, and 'tis then the roving bee approaches the confines of the richly glowing cup, and agitating the filaments, nature at once accomplishes her ends.

According to De Candolle the Barberry is found through Europe from Candia to Christiana, espousing most a limestone soil (though we have no calcareous bottoms in Kea).

In the north it is a valley plant. In the south it becomes a mountaineer, and finds a habitat in the sterile belt of Mount *Ætna*, at an elevation of 7500 feet.

It usually grows with us from 4 to 6 feet high, attaining in Italy the size of a plum tree, and living through two centuries.

In Poland, of old, leather was dyed a most beautiful yellow from the bark of the root.

The perfume of the flowers is not pleasant close by, but at some distance it becomes a very delightful odour.

The scarlet berries, are, in a raw state, too intensely bitter even for the birds, but they make a very delicious conserve.

Altogether the Common Barberry has some uncommon attributes.

Monthly Meetings
OF THE
Royal Institution of Cornwall.

December 16th, 1880.

MR. R. H. CARTER, IN THE CHAIR.

A paper was read by Mr. Trevail, on "Cornwall and its prospects."

The author drew attention to the ancient history of the county, and proceeded to point out the lines on which future advance might reasonably be expected to take place, such as—the reclamation of waste land, the extension of the area of market gardens, and the expansion of the railway system, with the consequent development of the mineral, fishing, and agricultural resources of the county.

January 10th, 1881.

MAJOR PARKYN, IN THE CHAIR.

Mr. H. Michell Whitley, F.G.S., Hon Sec., made a communication with reference to the recession of the tide in the valley of the Fal. It is traditionally stated that the tide once flowed up beyond Tregony to Hayle Boat Rock, below Creed Church. Taking first the case of Tregony, Leland states, writing in 1520, that "The Fal goeth up ebbing and flowing, and a quarter mile above is the town of Tregony." Hals, 1685-1736, says—"That the sea once flowed above Tregony bridge is plain as tradition and the sea-sand and shells found there inform us;" and Whitaker, in his Cathedral of Cornwall, gives us an account from tradition of the former prosperity of the town. Referring then to a copy of a chart drawn for King Henry VIII., in the British Museum, the Fal was shown flowing up to Tregony, and no bridge then existed. This chart was drawn between 1509 and 1535, but the survey was probably made some years

before this date. On this chart the church of St. James, Tregony, is shown, "standing in a more," as Leland describes it, with a spire at the western end; as many churches which have been rebuilt in the Perpendicular period, and now have towers, are represented with spires, it was suggested that this map shows the churches before the general re-building, which took place in the 15th and 16th century. Another chart, drawn about the year 1620, was then referred to, which shows the tide flowing up to Tregony bridge, and the bridge itself, indicating it was built between the dates of the two charts.

From these facts the deduction was drawn that there is clear evidence that the tide in historic times reached Tregony.

To ascertain when the recession of the tide and consequent decay of the town took place, reference was made to a section of the valley of the Fal from actual levelling. From this it appears the present heights above high-water mark are as follows :

The river Fal at Tregony-bridge . . .	17 feet
„ Hayle Boat Rock ..	35 „
„ Grampound-bridge ..	60 „
„ Trenoweth Mill . . .	96 „

The annual increase of silt in the valley of the Fal is found from this section to be about one foot in 30 years. This would give a date of about the close of the 15th century as the period at which the tide ceased to flow to Tregony, and about the middle of the 13th century when there was a depth of one fathom, and this agreed with Whitaker's statement that the decay of Tregony began in the 13th century.

With regard to Hayle Boat Rock, Norden's statement, in 1584, is as follows:—"Below Probus Church, on the opposite bank of the Fal, is a rock called Hayle Boat Rock, wherein to this day, are many and great iron rings, to which boats have been moored." Tonkin, writing about 1713, says—"There are no signs of rings or the places of any." Whitaker asserts, about 50 years after, that the holes for two or three still exist in the lower rock, two being close together for a fanged ring. A careful examination of the rock, however, fails to discover the slightest trace of any holes for rings.

Mr. Whitley suggested that Norden might have read the Cornish name as English, as Carew had done in the case of Catch French, which he states was named in all likelihood from some forgotten but memorable action, and thus the tradition might have arisen; but the name may be read Hayle Bord, Boundary Rock, as being on the boundary between Creed and Cuby parishes, which McLauchlan gives, and which seems the right meaning. Then why assume these rings to be for tying boats to if any existed? The reading boundary rock may give a new reason for their existence.

At a tin stream work, about half-a-mile below the spot, rock was found at 15 feet below the surface of the silt, and at the Fal viaduct of the Cornwall Railway at eight feet; there would thus be 22 feet of solid rock at Hayle Boat Rock to be removed before the tide could flow there, unless there had been a local upheaval between Tregony and the spot in question to that extent, which the section of the valley and the calculations as to the silting up at Tregony, conclusively prove had not taken place; the evidence clearly showing that the tide never in historic times flowed to this rock, and that Leland was right when he stated that "Tregoney is the olde ful se mark." From these facts it appears that Grampound's claim to be the Roman station on the Fal should be examined, as it appears that Tregony was the head of the tidal river, and not Hayle Boat Rock; and the statement that the Roman road passed through Grampound, and not Tregony, is doubtful, as down to 1675 the great south road ran from St. Austell to Tregony, and from thence over King Harry Ferry, and so westward along the ancient trackway to Penzance.

In the discussion which followed, Mr. Collins, F.G.S., stated he agreed with Mr. Whitley that there had been no recent local upheaval in the Fal valley between Tregony and Hayle Boat to the extent requisite to have allowed the tide to flow there, and therefore as rock was met with at the depth mentioned, the sea could not in historical times have flowed there, as tradition stated.

Mr. Hamilton James made some remarks as to a collection of foreign moths and beetles presented to the society by the representatives of the late Mr. Charles Fox, and which were placed on the table.

A paper contributed by Mr. Herbert Whitley, on the “Bolster Entrenchment, St. Agnes,” was then read. This entrenchment ran, when perfect, between Breanick Coom and Porth Chapel Coom. The eastern portion, following the scarp of the hill from a little east of Castle house through the churchyard to Vicarage, is now totally obliterated; slight traces of the ditch remain in Polbreen Common, and through Bolster estate to Goonown the entrenchment is nearly perfect, except in one or two places. Beyond this latter place the course of the Bolster may be traced by slight indications and portions of the vallum still remaining, particulars of which were given in the paper, which was illustrated by a map showing the course of the entrenchment and its present state.

Mr. H. Michell Whitley contributed some notes on Merther and Creed churches, and drew attention to a figure of St. Anthony found in the field where St. Cohan's Chapel formerly stood, now placed in a perpendicular niche on the north of the altar. The canopy of the niche is blackened by smoke from a lamp or candle. Attention was also drawn to the fragments of two fonts found by the Rev. F. Webber, in 1843, in the ruins of St. Cohan's Chapel. From the ornamentation on one it is probably transitional Norman.

At Creed Church, built in the south wall, is a well-carved tablet nine inches square, with the symbols of the Virgin Mary—a pot with a lilly. These remarks were illustrated by sketches of the various relics described, and some notes on St. Anthony, contributed by Mr. Tregellas, who also sent a copy of a drawing of Grampound old chapel and cross.

Mr. Hamilton James exhibited a humerus of a great Rorqual Whale, found below high-water mark, at Port Holland, on the 25th October, 1880, and which is fully described in Mr. James' paper on page 42 of this Journal.

February 15th, 1881.

JAMES JAGO, Esq., M.D., F.R.S., IN THE CHAIR.

A paper was read from Mr. W. T. Hancock on “Wild Red Deer in Cornwall.” Since August, 1879, a wild red stag, with a huge pair of horns, has been seen in the Hendergrove and Trengall woods, but has eluded all efforts to capture him. When

chased, he invariably took the hedge. Some three months since he strayed to North-hill, and from thence to Sibblyback, where he fed and ran with the colts. The stag is described by a farmer who has seen him, as about the size of a yearling bullock, of a reddish-brown colour, with a large pair of horns.

Mr. H. Michell Whitley, F.G.S., hon. sec., then read a paper on "The silting up of the creeks of Falmouth Haven," which is printed in the present number of the Journal, p. 12.

In the discussion which followed, Dr. Barham referred to the beach formed outside the Falmouth Hotel, which being dredged from the harbour, and being coralline sand, showed that in that portion but little mud had been deposited; the contents of the barges were discharged about a quarter of a mile from the shore, and the beach had been thrown up by wave action upon the sand.

Dr. Jago mentioned that the coralline beach did not extend beyond Gyllyngvase; all to the westward being Swanpool gravel. With regard to the silting up of the harbour, whilst there appeared to be only shells in the roads, the inner harbour had shoaled considerably between Falmouth and Flushing, as he remembered that the old packets used to anchor between the quays.

A paper was then read from Mr. Whitley, F.M.S., vice-president, on "Sun Spots and Temperature," in which the connection between the two was examined, and the following deductions drawn:—1st. That there is no regular rise and fall of the curve of temperature at Greenwich during the cycle of 11.11 years, corresponding to the minima of sun spots. 2nd. That years of great heat are often followed by years of great cold. 3rd. That the mean temperature of the years of maxima of sun spots is one degree below the mean temperature of the whole series of years, and that the years of maxima are above the mean temperature by the same amount. The conclusion arrived at from all the facts of the case, being, that no connection between sun spots and temperature could be traced.

Dr. Barham, F.M.S., whilst agreeing with the paper that no cycle of recurring high and low temperatures could be made out, suggested examining the maxima temperatures as well as the mean, as the latter did not take into account the range; with a clear sky there might be a very hot day, and a cold night, from

the free radiation into space ; or a cold winter and a hot summer. He had made some inquiry into the subject from this point of view, but could trace no evidence of a cycle, and Mr. Glaisher was of the same opinion.

Dr. Jago mentioned that the connection between the rainfall and sun spots was also an interesting enquiry ; and the opinion of some authorities, founded on observations taken in the West Indies, was that there was such a connection, and that cyclones could be foretold. There was also a theory that the spots preceded the effect sometimes by several months.

Mr. H. M. Whitley remarked that the connection between sun spots and rainfall had been investigated very fully, in a paper read before the Institution of Civil Engineers by Mr. Binnie in 1874, and his conclusion, founded on observations taken in all parts of the world, was, that the connection between sun spots and rainfall is not capable of demonstration.

Mr. Trevail read a letter from Mr. Roberts, the manager of the Delabole quarries, promising a donation of fossils for the museum.

The returns for St. Keyne, St. Erme, and St. Allen churches were placed on the table, and the architectural and archæological features of interest connected with them discussed.

April 19th, 1881.

C. BARHAM, Esq., M.D., F.M.S., IN THE CHAIR.

The REV. A. P. MOOR, vicar of St. Clement, submitted the two earliest volumes of the parish registers for inspection, the first dating from 1543 to 1594, the second from 1595 to 1655. The former had suffered a little from age, and was rather hard to decipher. Mr. Moor stated that he had not found anything of general interest in the body of the registers, but the following notice respecting the times then approved for matrimony might be worth quoting.

On the first leaf of the register of the parish of St. Clement, 1595 to 1655, appears the following entry, signed by Mr. Gatling, the vicar.

“Times of libiting and allowing marriage. Marrying comes in the 13th of January, and by Septuagesima is out againe until Low Sunday, which is the Sunday after Easter-day, at

which time it comes in againe, and goes no more out till Rogation Sunday, from whence it is forbidden againe untill Trinity Sunday, and from thence it is forbidden till Advent Sunday, but then it is out and comes not in againe untill St. Hilary, which is on the 13th day of January next after."

The REV. J. N. MUNFORD communicated a list of briefs issued to the parish of St. Allen, which was copied from a fly-leaf of an old register of that parish, and from which list the following is compiled :—These briefs were collected between the years 1710 and 1715, and some of the entries are exceedingly quaint. In 1713 there was collected on a brief for "ye Turkish captive, son of Mary Lake, of ye parish of St. Kew, 2s. 7d.," and the sum raised for this Cornishman is in strong contrast with that subscribed for William Bowyer, of London, for a loss by fire amounting to £5146, which only amounted to 2d., and even he might consider himself a fortunate man, for "Cornelius Paulyn, Andrew Wilkin, William Duffield, Thomas Richard Hole, George Harpur, and others in ye town of Teffersham," had to divide between them the same sum. Amongst other noteworthy entries are the following :—

"Brief for Charles Empsom, in the parish of Howdon, in ye East Ridings, in the county of York, August 3rd, 1711, 00 06 00½." There must have been something singular in this case to have called forth such a large collection, which is only exceeded by the "Brief for Little Brickhill, in the county of Bucks," which realised the handsome sum of 00 07 00, which two large collections evidently for the time exhausted the liberality of the parish, as the next brief for Whitechurch only produced the sum of 00 00 06. We further find that the "collegiate church of Southwell, in ye county of Nottingham," was damaged by lightning, in the year 1713, and St. Allen paid 1s. 7¾d. towards its reparation. In the same year the church of Burton-upon-Trent, in the county of Stafford, was not so fortunate, as there was collected for it on Aug. ye 2nd. only 2½d.

Two other entries in the year 1713 deserve particular notice; they are as follows :—"Brief for St. Margaret, at Cliff Church, in ye county of Kent, shattered by storm, 4d." "Brief for Quatford Church, in ye county of Salop, demolished by storm and earth Qk. 4d." The brief for Leighton Church, in Salop, shows

that it was "old and ruinous, and first built with bad materials." Towards the restoration of Ruthin Church, which was old and ruinous, the damage amounting to £128, there was collected 1½d., and the liberality of the parish seems to have been fairly exhausted by this year, 1715, for the highest collections we find are those for Slimbridge, in Gloucester, and Kentford, in Suffolk, the former amounting to 5d., and the latter to 4½d., for in fact the tale of "churches old and ruinous" must have somewhat palled upon the parishioners, as the briefs for "All Saints' Church, in Derby, old and ruinous;" "St. Peter's Church, in Chester, old and ruinous;" Shoreham Church, in Sussex, old and ruinous;" St. Mary's Church, in ye city of Lichfield, old and ruinous," only realised 1½d. each; but this sum was slightly exceeded in one case when the town of Liverpool, in Lancaster, after a loss by fire, collected 2d. from the remote country parish of St. Allen, in Cornwall.

It was stated during the discussion, that at St. Clements, in the day of the Rev. Francis Jenkins, when a brief was received from head quarters, and the vicar knew from experience that the probable amount collected would be less than the cost of transmitting it, the clerk would be instructed to walk around the church with a plate, and not to receive any donations, the result being be returned as *nil*.

A paper was then read from MR. EDWARD WHITLEY, on "The College of St. Columb." On the western side of the present churchyard of St. Columb Major, lies a piece of land enclosed and used for garden purposes, which still bears the name of the college. On this site stood the parsonage house, formerly denominated here, as in other parts of England, "The College," because it contained a collegiate kind of family, with a collegiate kind of school within it. In the times when this community flourished, the parsonage household or retainers of the church consisted of six persons, under the Rector, viz., the deacon, sub-deacon, the acolyte, the exorcist lector, and ostiary. The priest and deacon only being allowed to be in holy orders, while the others were denominated clerks; thus were formed those first colleges of clergy in our island, the immediate parents of what we call colleges in the present day. The grand old church of St. Columb was once nearly destroyed by some pupils of this

college ignorantly setting fire to a barrel of gunpowder, the parish stores laid up in the rood loft, as Hals tells us. This original college of St. Columb was destroyed by fire in July 1701, and not the slightest remains of the structure now exist. The next rectory-house appears to have been built on somewhat of the same plan, and must have been of a very interesting character, and although destroyed in the early part of this century, to make room for the present parsonage, it is still clearly remembered by some of the old inhabitants, and from their remembrance and notices by some of our local historians, the following description is compiled. It is supposed to have been built by Sir John Arundel, Knight, (who is said to have received his education in the old college), on the model of his collegiate home. The building was long and low, with entrance porch leading into a lobby with a hall on the right hand, and three rooms on the left. These constituted two sides of a narrow quadrangle, whilst the kitchens, grand staircase and some rooms above formed the other sides. From the room on the left of the lobby, supposed to have been the rector's parlour, a spiral staircase led to the rooms overhead, namely, the dormitory for pupils, deacon's room, and the rector's room. The kitchen was clearly marked out by its open roof and its old-fashioned cooking arrangements, and from the back kitchen there arose another spiral staircase to the servant's room above. The grand staircase led to a bedroom, which was, no doubt, reserved for the Bishop or Archdeacon at the respective visitations of each. Adjoining this room was the chapel, running east and west, long, lofty, and broad. As years passed on changes took place in the old building, the chapel was partitioned off into two bedrooms, the school into a parlour and pantry, and other so-called improvements were made in the Bishop's chamber, the grand staircase, and the lobby, until the whole building was at last destroyed, to make room for the present rectory-house, and this most interesting structure, the reputed work of Sir John Arundel, the echo of the so-called college of Monks Augustine, has faded from the minds of nearly all the inhabitants of St. Columb.

A paper contributed by MR. COLE, C.E., on "The main roads of Cornwall in the 17th century," was then read. The principal roads of Cornwall in the 17th century have been minutely delineated by John Ogilby, in his "description of the main roads

of England." This magnificent folio volume, which is now of the utmost rarity, was then the "Murray's handbook for Travellers" in England. Costly as it was, a copy was generally kept at the best inn of the leading towns of the kingdom, and from this book travellers extracted the directions for the road on which they purposed to journey. The work itself is illustrated by most elaborate plans of all the main roads described, and amongst them are included the three main roads of Cornwall, viz., the main road from London to the Land's End from Plymouth by Looe, Fowey, Tregony, King Harry passage, Marazion and Penzance to Sennen. The great north road from Barnstaple to Truro by Launceston, Camelford, Padstow, St. Columb, and Mitchell; and the central road from Tavistock, through Liskeard, Loswithiel, and Grampound. It is interesting to note that the "great back-bone road" of Cornwall, that ran down the centre of the county, and which is generally considered to be one of the great main roads of Cornwall, is not included by Ogilby in his description of the main roads of England, and it is further worthy of notice that the two principal roads, viz., the great south road from Plymouth, and the great north road from Barnstaple, both crossed ferries, the former at Crimble Passage, Foy, Tywardreath, and King Harry, and the latter at Padstow, showing that when the traffic of the county was carried on by packhorses, boat ferries were not considered the obstacle they are found to be now. Another point deserving of especial notice is the fact that in the whole description, Ogilby never mentions a single gibbet, although in other counties the direction, "You pass the gibbet on the left" or "right" frequently occurs, a circumstance upon which we Cornishmen may congratulate ourselves. Turning now to the great south road, from Plymouth it passed over Crimble Passage, by Millbrook, Tregantha, Craffthole, and Recliff to Looe. Ogilby describes the chief trade as consisting of fishing, and the town as being towards the sea, fenced with a garreted wall, all traces of which seem to have now disappeared. St. George's island is also noted as one on which "great stores of sea pyes bread." Foy is next mentioned as being strongly fortified, and its haven defended by blockhouses, the remains of which still exist. The town had formerly "sixty sayl of ships." Another ferry was then crossed at Tywardreath, and passing south of St. Austell, the road ran to Tregony, where

there is good accommodation, but even at this date it is noted that the town and castle are much gone to decay. From here the road, hilly, sandy, and irregular, ran to the King's High Passage, and thence through Blow the Cold Wind to Market Jew, a "mean town." St. Michael's Mount is then described on the left, called the Hoar Rock, and it is interesting to find that in Ogilby's time the lantern on the tower was not renowned as it is at present, as he says, "a little distance from the castle is a craggy place called St. Martin's chair." Penzance is next mentioned as driving a considerable trade, well served with provisions, and fish very plenty. From Penzance the road ran by St. Burian to its termination at Sennen. The Great North Road passed by Launceston, with its ruinous Castle, to "Hall drunkard, *alias* Halworthy, a noted inn, affording as good entertainment as any on the road," to Camelford, scarce numbering 50 houses, with apparent indifferent accommodation. From hence the road ran to Padstow by a ferry over the Camel, adjacent to which is a great sand, "drove, as the people here report, up from the sea by a north-west wind, and hath already buried above 300 acres of land, several houses and part of the church yet appearing visible." On the sands were also "three or four sheds built for entertainment of the people come to the hurlings, and for direction of passengers." Padstow is noted as trading chiefly to Ireland, having an island at the mouth of its harbour, renowned for good camphire and sea-fowl, and the town possessing above all good accommodation. Ogilby notes that there were 100 houses in St. Columb Major, and that there they had the privilege of keeping court once in three weeks for all actions under 30s., Sir John Arundel being lord of the town, but neither here or at Michel, a mean town of about 30 houses, was there good accommodation. Truro noticed next, is large and well built, a seaport well inhabited and frequented, and here likewise the tynn coynn'd. The third road described by Ogilby is the central road from Tavistock; it ran to Liscard, with a ruinous castle, an indifferent town, driving a considerable trade in yarn, which is vended in Exeter, but apparently without good accommodation. Hence the road ran by the Eastern, Middle, and Western Taphouses, leaving Lestory Castle, now ruinous, on the right, thro' Liswithiel, formerly seated on a hill, but now in a bottom, once of greater account than now, the river being

choaked up, and is the only place where the gaol and courts for the Stannary are kept. From hence the road passed through St. Blas to Grampound, another corporate town, containing about 100 houses, and then by Probus and Tresillian to Truro, and thus completes Ogilby's description of the main roads of Cornwall.

DR. BARHAM, F.M.S., then made some remarks on the last winter :—The two points brought chiefly under review were (1) the extreme general severity of the short and late winter, almost limited to a fortnight in January ; and (2) the mitigation of cold in our western districts. In illustration of the former Mr. Glaisher's results for Blackheath may be taken as an average standard—those given for the week January 13th to 19th :—

	Degrees.
Highest day temperature from	25 to 32·3
Lowest night ditto	15 to 25·9
Mean of highest day temperatures	28·5
Mean of lowest night temperatures	19·2
Mean for day and night	24·2

being $12\frac{1}{2}$ degrees below the average of 60 years.

For the week January 20th to 26th :—

Highest day temperature from	26 to 35
Lowest night ditto	9·2 to 30·2
Mean of highest day temperatures	30·7
Mean of lowest night temperatures	18·7
Mean for day and night	24·9

being 12·7 degrees below the average of 60 years.

The cold was much more intense in other parts ; thus at York the highest day temperature was from 12 to 23 degrees, and the lowest night temperature $3\frac{1}{2}$, $5\frac{1}{2}$, to 10 degrees.

Even at Truro, where the mean temperature of the week ending January 22nd was the highest of the stations regularly compared by Mr. Glaisher, in the *Gardener's Chronicle*, it did not exceed 27 degrees.

The chief suffering and loss were caused by the heavy falls of snow—the worst on the 18th, which covered the land generally about a fortnight, and drifted in many places to a depth of 15 feet or more. As instances—the journey from Oxford to London took nearly a week, and the chairman of the Great Western Railway estimated their loss at £50,000. From the Tring cutting on the London and North-Western Railway, 1700 truck loads of snow were removed, equal to a train five miles in length.

Plymouth was deprived of water for nearly a week, although 1000 men were employed in clearing the channel from Dartmoor. Birds were destroyed in countless numbers, and their instincts were changed by hunger. Rooks were observed in the Isle of Wight, pouncing on a flock of larks and devouring them; and similarly, in another class, among pigs detained on a railroad in Scotland, the stronger made a prey of the weaker.

The second point, the partial escape of our south west country from the intensity of cold, the greater mildness of the *day* was, as usual, very manifest. Thus at Truro, the maximum varied from 29 to 43 degrees, whilst it was from 25 to 32 degrees at Blackheath; but the mitigation of the cold of the night is most conspicuous on the coast. At Penzance the minima were from 21 to 35 degrees, those at Blackheath being from 9 to 30 degrees. At Scilly no very severe frost occurred.

It deserves special remark that the month of January has now been for three successive years very exceptionally cold—a sequence unprecedented in our records. In the last winter it was not, as in the two before it, preceded by a severe December; but the life of a great number of plants has struggled in vain against these repeated attacks.

Dr. Barham made use also of valuable notes by Mr. Whitley on the late winter.

Annual Excursion.

—:O:—

The annual excursion took place in the Looe district, on September 22nd, when a party of about forty ladies and gentlemen assembled at Liskeard, from which place a start was made about half-past 9.

Crossing the Moorswater valley the party ascended the opposite hill, the scenery of which embraces the Caradon and Callington hills in the middle distance, and the dim outline of Dartmoor in the far distance. The first halt was made at Duloe, where the party was received by the rector, the Rev. Paul Bush, who lead the way to Duloe circle. This circle is formed of upright rough blocks of quartz. One stone lies prostrate in the centre, five only standing upright. From the circle the party went to the church, which is a Perpendicular building, restored several years ago under the direction of Mr. St. Aubyn. The tower had a most ominous leaning towards the building, and to prevent it falling the upper stage was taken down, and the remaining portion roofed in. In the interior there is a fine old screen around the north chancel aisle, but there is no chancel screen. The most remarkable object in the church is the handsome altar tomb of Sir John Colshill, surmounted by his effigy clad in armour. The mischievous urchins of the village have indulged in the modern way of leaving one's mark, and the ancient haters of Popery have cut away part of the inscription, probably a part expressive of a wish that the departed might still be prayed for. Mr. Bush called attention to the mouldings of the arches and capitals of the arcade, which contained the Tudor rose and several shields bearing arms. Guide books tell us that Dr. Scott, the joint author of *Lidell* and *Scott's famous Greek Lexicon*, once held the living of Duloe, and it was to the vicar's cheery residence on the side of a charming valley commanding beautiful prospects, that the company next wended their way. Here they became, for the time, the guests of Mr. Bush, and partakers of his hospitality. They walked through the pretty little avenue of trees in front of the house,

and Mr. Olver, of the farm on the opposite side of the valley, called attention to the house, which was formerly a mansion in the possession of the ancient family of Anstis, one of whom became famous as the historian of "The Order of the Garter." From Duloe the next stage was made across three or four miles of the most charming country, now descending wooded pastoral valley, now climbing steep and long, but albeit beautiful verdure-clad heights, until Trelawne, the residence of one of the most famous of Cornish families, was reached. Trelawne, whither the family migrated from Alternun in the reign of Queen Elizabeth, is in the parish of Pelynt. The house is a grand one, containing many treasures, and was most kindly thrown open to the excursionists by Sir John Trelawny. Sir John was in London, but Mr. Caunter, of Liskeard, assisted by Mrs. Caunter and Miss Caunter, did the honours of the occasion, receiving the Bishop and the leaders of the party at the entrance, conducting them over the house, and supplying them with creature comforts. Mr. Caunter also efficiently pointed out the historical portraits with which every room abounds. Trelawne has been rebuilt on the old lines, and has a brand-new appearance about it; but it is a very fine house. The party entered under the tower door and first visited the chapel, which was rebuilt and consecrated by Bishop Trelawny in 1701. The present baronet has rebuilt it again. The two features which attracted most attention were the reredos and the roof. The reredos is of alabaster, in three compartments, each of which bears sacred emblems on a mosaic ground. The corbels of the roof are large angels in stone, and belonged to the old chapel. and the roof itself is ornamented with wooden angels bearing shields with the emblems of the crucifixion. Mr. Iago made a few remarks upon the changes the chapel had undergone, both with regard to the building and the worship conducted there, and the party were then conducted to the "Bishop's Room," which is now a spacious library. The principal attraction here was a portrait of the famous Bishop Trelawny, who was among the seven bishops imprisoned in the Tower by James II., and of whom the Cornish sang :—

And shall Trelawny die ? and shall Trelawny die ?

Then twenty thousand Cornishmen will know the reason why.

The portrait of the Bishop represents him as wearing the robe

of the order of the garter, of which he was prelate. Some missals and other old vellum books, wonderfully illuminated, attracted considerable attention. Through a hall in which is a fine oak cabinet, the drawing-room was next reached. Among the portraits there is one of the first baronet, who was born in 1592, and created baronet by Charles I. There is also a portrait of Queen Elizabeth, given to a representative of the family by herself. It was a general opinion that the portrait by no means flattered the Queen according to modern standard of beauty. After visiting the tower chamber the company eventually arrived in the great hall, where among other portraits, is a very remarkable one of that member of the Trelawny family who died recently, and who was known to fame as the friend of Shelley and Byron. He is here represented in Grecian costume, and with a strikingly handsome face. In the great hall Mr. Iago read a paper upon the Trelawnys of Trelawne, and afterwards the company moved on towards Talland Church, a building of very quaint appearance, owing to the tower being detached from the main building. It is approached by a road around a very deep valley, beyond which is the sea. At the church the party were received by the vicar, the Rev. Creagh Coen, who pointed out some of its most interesting features. The old stocks remain in the porch, which connects the tower with the main building. The roof of the south aisle is particularly fine, the whole of the woodwork being beautifully carved. The old carved bench ends, too, remain in a good state of preservation. The altar tomb of John Bevill, in the south aisle, attracted much attention with its quaint epitaph, above it hangs a rusty helmet with the Bevill crest, and near it stands a mutilated fragment of a statue conjectured to be the Virgin Mary. On taking down a portion of the north wall, in 1849, a most interesting series of frescoes was discovered, it is described in the R.I.C. report for that year. The old bench ends of the north transept, or aisle, contain the arms of the Bevills and the Grenvilles, with the name in a scroll over each. In this aisle is a slate monument erected by "Nic. Kendall, clerk, archdeacon of Totnes," to a daughter of Thomas Kendall, who, the inscription tells us, lies buried in Westminster Abbey, and who gave, amongst other benefactions, "100 guineas to teach poor children in this parish." The date is 1702. There is a

curious slate slab in the chancel floor in memory of a lady who died in childbed. It represents her in an old four-post bedstead; date 1625. After a brief visit to the parsonage the party made for Looe. Here, at the entrance to the new Guildhall, they were received by the Mayor (Mr. R. A. Peter), to whose words of welcome the President, the Lord Bishop of Truro, replied, happily pointing out how the Royal Institution of Cornwall, by its excursions, tended to bind all parts of the county together. The Mayor then invited the visitors to inspect the new Townhall and the Corporation muniments.

The party afterwards assembled for luncheon at the "Ship" Hotel. Several Looe gentlemen had joined the party at Duloe, and they, as well as the Mayor and Corporation, and the Vicar of Looe, also appeared at the luncheon. After the repast, the President said everyone would agree in the extreme delight of that day's proceedings, and the satisfaction they had had from their first setting out. (Applause.) They had seen more interesting things than they had expected. They began with that wonderful circle, small but most interesting, which they might call the heathen church. He believed, indeed, that good etymologists were of opinion that the very word "church" meant a circle. Then they had been seeing at Duloe and Talland the evidence of the firm Christian faith held by their forefathers. They had marked how superstitions had passed away, by the defacing of certain expressions which would now seem to them as things of the past. And having seen these monuments of the old time, they had now come to a place which was monumental in itself, in the antiquity of its charters and the interest of its associations. (Applause.) They had been received by the Mayor of to-day as the Mayor of several centuries ago would have received what they might call an embassy from the whole of the county. He thanked the Mayor and the people of Looe for their cordial reception, and assured them how welcome they would be to join the Royal Institution of Cornwall. He had put into his hand the bill of an ancient dinner held not far from that place in 1728, on the occasion of the accession of a certain Mayor to office, and this bill his lordship proceeded to read, interspersing it with witty comments on the items, which included sixty bottles of claret, for £4 10s.; twenty-eight of sherry, for £2 16s.; six bottles of canary, for

15s. ; to that they added 115 quarts of ale, which cost 28s. 9d. Then came some items which explained some mysterious looking bowls which they had been examining at the Guildhall. There were lemons, and 7 quarts of brandy for 14s., and $5\frac{1}{2}$ lbs of sugar for 7s. 4d. Their horses cost 30d., and the whole bill amounted to £16 7s. 7d. The President concluded by again expressing the heartfelt thanks they felt towards the people of Looe for their kind reception.—The MAYOR and the VICAR suitably acknowledged what the Bishop had said, and after a few words from DR. BARNHAM on the indebtedness of the Royal Institution of Cornwall to such men as Clement Jackson, Mr. Box, Couch of Polperro, and Mr. Peach, the party broke up.

After visiting some of the picturesque old houses and the old Guildhall, with its pillory, the party again took their places in the vehicles, and made a very pleasant journey to Liskeard in time for the last down train.

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An *Annual Subscription of Five Shillings* entitles the subscribers to admission to the Museum on Mondays and Saturdays, and to attend all the Meetings of the Society.

A *Subscription of Ten Shillings* further entitles the subscriber to introduce to the Museum and Meetings all the *bonâ fide* resident members of the family.

A *Subscription of One Guinea* entitles the subscriber to all the publications issued by the Institution, to admission to the Museum, for himself and family on every day in the week, and to the Meetings of the Society; and to ten transferable tickets of admission to the Museum whenever open.

The "JOURNAL OF THE ROYAL INSTITUTION OF CORNWALL" will be forwarded free of charge to the members subscribing One Guinea annually. To other subscribers to the Institution, it will be supplied on payment, in advance, of Five Shillings a year; or the several numbers may be obtained from the Curator, or from a bookseller, at Four Shillings each.

Royal Institution of Cornwall.

63RD ANNUAL GENERAL MEETING.

The Annual Meeting was held at the Rooms of the Institution, Truro, on November 16th, 1881. The President, the Lord Bishop of Truro, in the chair. Amongst those present were Dr. Barham, F.M.S.; Dr. Jago, F.R.S.; Rev. W. Iago, F.S.A.; Hamilton James, H. S. Leverton, and Arthur C. Willyams, Members of Council; Major Parkyn (*Sec.*); Revs. W. S. Lach-Szyrma, T. S. Stephens, G. L. Church, Carey Dickinson; Messrs. A. P. Nix, E. Sharp, N. Hare, jun., T Cragoe, W. Teague, jun., J. Bubb, etc.

Dr. Barham read the report of the Council, as follows:

The history of the Institution during the past year, and its present state, indicate satisfactory progress. Since the last Annual Meeting 26 ordinary members have been elected, and also five subscribers of 10s., and one of 5s., altogether an unprecedentedly large accession to our numbers.

We record with much regret the loss of Mrs. W. M. Tweedy, the only member taken from us by death. Her goodwill to this Institution, constantly maintained by her as the representative of her husband, the most energetic of its earlier supporters, was finally shown by a legacy of £20.

Three of our ordinary members have withdrawn from our society. One of them, Mr. H. O. Remfry, who has removed to the Cape Colony, is entitled to our thanks as a diligent colleague on the Council for many years.

The income of the year amounted to £216 3s. 4d., as against £199 6s. 9d. in the preceding year; the expenditure having been £163 15s. 4d. against £203 18s. 4d. The amount

derived from sale of our Journals and Fauna, £15 11s. 10d., is still satisfactory. The editorial charge is reduced by £10, and will hereafter be extinguished, through the kindness of Mr. H. M. Whitley, who has undertaken to perform this work without remuneration, in order that two numbers of the Journal may again be issued, instead of one only in the year. The importance of this extension of the chief means of communication among our members, and with the public, has been set forth in a paper circulated recently by your Council. For the purpose of meeting the outlay needed in this and other respects it was calculated that about £75 was more immediately required, and more than that sum has been contributed.

The admissions to the Museum during the year were as follows :

Admitted free	.. .. .	2,094
„ by ticket	.. .. .	96
„ by payment, 6d.	.. .. .	226
		<hr/>
		2,416

Amongst various interesting donations we are bound to notice a large collection of foreign insects, presented by the representatives of the late Mr. Charles Fox, one of our most esteemed friends. Mr. Collins also contributed many valuable mineral specimens.

The Journal has very well maintained its character in all respects ; but the completion of the catalogue of our mineral collection is its distinctive feature. For this the Society is indebted to Mr. Collins, and, coupled with the perfect arrangement of the series of specimens, which is equally his work, it constitutes an addition of the utmost value to the usefulness, for purposes of study, of the great store of illustrations of the metalliferous productions of Cornwall and elsewhere accumulated in our cases.

Your Council must here express their sense of the loss sustained by this Institution through the departure of Mr. Collins, and they most thankfully acknowledge the services he rendered it in many ways. The Journal just published contains the results of his prolonged and elaborate inquiries on the “Geological Age of Central and West Cornwall.” The views advanced

by him are of great importance, and, conflicting as they do considerably with those commonly accepted, may be expected to elicit a discussion tending to enrich both our transactions and our geological collection. It has been duly proposed that Mr. Collins be elected an Honorary Member; and the Council trust that you will gladly sanction this proposition, and further join them in best wishes for his prosperity, and in the hope that he will give us the benefit of such results of his observation and study abroad, as may be adapted to the illustration of the matters of Cornish interest falling within the scope of this society. As a parallel case, it is gratifying to us to mention that Mr. R. Pearce, formerly the lecturer in our Mining School, who is now established successfully in Colorado, has sent a donation of £20 to our special fund, as evidence of his sense of early obligation; he also promises an account of the Silver Lodes in his part of America, which present very striking analogies to the tin lodes of this county.

In regard to our geological collections much remains to be done, especially for purposes of instruction, practical as well as scientific; and it is to be hoped that the time is not distant when teaching of a sound and thorough character, combined with laboratory work, will be regularly accessible within our walls. Lectures of a more popular kind, such as Mr. Collins's course on Geology, in the spring, which was fairly attended, will always be fostered by this Institution as adjuncts to serious systematic study.

Our obligations to Mr. H. M. Whitley, in regard to the editing of the Journal, have been already alluded to; and it should be added that we have been, and shall be, greatly benefited by his researches among ancient records and documents preserved in public offices in London, where also the efficient aid of Mr. Walter Tregellas has been promised as Metropolitan correspondent. The Rev. W. Iago, to whom we have been so largely indebted through many past years, has accepted a like post for the Eastern Division of Cornwall; and Major Parkyn has kindly bestowed the required time and attention, by no means small in extent, on our home affairs.

Our Meteorological Department has been regularly maintained; and, as in former years, the diligence and accuracy of

our Curator, Mr. Newcombe, must be cordially acknowledged. His labour has been increased by the more frequent calls for our results from distant quarters, which cannot, however, but be welcomed as an extension of our usefulness. Our improved financial position will expedite the publication of the general summary of the records in our hands.

The recent excursion to Looe was altogether satisfactory, and its expense was rather more than covered. The reception of the party, whether by public bodies or individuals, was most cordial, and has been gratefully acknowledged. The visit to that eastern district has made our friends there better acquainted with our relations to the whole county, and has led to the enlistment in our ranks of several valuable members from those parts. One of the first aims of this society must be that of becoming the recognised centre for Cornishmen generally, who wish to cultivate or promote the study of our special subjects of inquiry; and a helping hand will be extended by us to kindred societies, as well as to individual labourers.

In more than one of our reports the progress of the *Bibliotheca Cornubiensis* has been noted; and it is now with much satisfaction that we congratulate Messrs. Clement Boase and Prideaux Courtenay on the completion of the work. It has involved enormous labour, and must be most serviceable in the prosecution of all enquiries concerning Cornwall. We may express the hope that it will be fully appreciated.

The monthly meetings held during the last winter and spring were well supplied with communications; but the attendance of members was small. Your Council are willing to hope that so evidently desirable an arrangement for intercourse and informal discussion among those interested in our work, will be found more attractive in the coming season.

The rule which limits to two successive years the holding of the presidency by the same person, necessitates a new appointment to the chair. You will share the gratitude of the Council to the Lord Bishop of Truro for accepting the headship of the Institution, overwhelmed as he has been with imperative duties. These notwithstanding, he has entered with entire self-sacrifice into the spirit of our pursuits, and his influence has already conduced to the forwarding of our researches of ecclesiastical

bearing, destined, under his continued guidance, to bear more fruit hereafter.

It will gratify you to be informed that the Earl of Mount Edgcumbe has allowed your Council to nominate him as our president for the next two years, and you will, no doubt, gladly complete the form of election. It is needless to point out how certainly the interests of the Institution will be thus promoted.

It is proposed that the Lord Bishop of Truro shall succeed the retiring vice-president ; that Mr. H. M. Whitley and Major Parkyn be the secretaries, and Mr. Arthur Willyams the treasurer ; and that the other members of the Council be Mr. R. H. Carter, Dr. Hudson, Rev. W. Iago, Mr. H. S. Leverton, Rev. A. P. Moor, Mr. Hamilton James, Mr. R. J. Frecheville, Dr. Barham, Dr. Jago, and Mr. R. Tweedy.

Dr. Arthur C. Williams, Esq., in Account with the Royal Institution of Cornwall. Cr.

1881.		£		s.		d.	
July 31.	To Annual Subscriptions, Donations, Arrears, and Illustration Fund	153	15	6			
	H.R.H. the Prince of Wales	20	0	0			
	Visitors' Fees	6	16	0			
	Mrs. Tweedy's Legacy	20	0	0			
	Sale of Journals	14	5	2			
	Sale of 'Fauna'	1	6	8			
	Balance carried forward	12	7	5			
<hr/>							
		£228	10	9			
<hr/>							

1880.		£		s.		d.	
July 31.	By Balance brought forward	...	...	64	15	5	
1881.							
July 31.	By Taxes and Insurance	...	...	5	5	0	
	Repairs	...	...	11	8	10	
	Museum Expenses	...	...	10	9	9	
	Curator's Salary	...	...	44	0	0	
	Editing Journal	...	...	10	0	0	
	Lake and Lake, Printing Journal	...	...	25	0	0	
	Illustrations for Journal	...	...	5	7	6	
	Postage and Parcels	...	...	9	5	6	
	Printing and Stationery	...	...	3	16	11	
	Sundries	...	...	6	3	4	
	Ray Society	...	...	1	1	0	
	Palaeontographical Society	...	...	1	1	0	
	Meteorological Society	...	...	1	0	0	
	Rainfall and Magazine	...	...	0	10	0	
	Geological Journal	...	...	1	0	0	
	Journal of Science	...	...	0	18	0	
	Conversazione	...	...	0	19	0	
	Botanical Magazine	...	...	2	2	0	
	Nature	...	...	1	10	0	
	Book Cases	...	...	12	5	3	
	Books and Binding	...	...	10	12	3	
<hr/>							
		£228	10	9			
<hr/>							

Excursion Account.		By Balance brought down		£12 7 5	
Tickets	£24 1 6	...	...
Less Expenses	£22 12 8	...	...
				£1 8 10	
Balance due to Treasurer	£10 18 7	

Additions to the Library since the Spring Meeting.

Three vols. Archæological Miscellaneous Tracts Relating to Antiquity	Mr. C. W. Borlase.
Report of the Chief Signal Officer War Department	From the American Govern- ment.
Monthly Weather Review	Ditto.
Annual Report of the Smithsonian Institution for 1879	From the Institution.
Proceedings of the Literary and Philosophical Soc- iety of Liverpool, vols. 33 and 34	From the Society.
Proceedings of the Philosophical Society of Glasgōw	Ditto.
Journal of the Anthropological Institute of Great Britain and Ireland, and list of members ...	From the Institute.
Collections, Historical and Archæological, relating to Montgomeryshire	From the Powisland Club.
Proceedings of the Zoological Society	From the Society.
Report and Transactions of the Devonshire Associ- ation	From the Association.
Proceedings of the Royal Irish Academy ...	From the Academy.
Proceedings of the Penzance Natural History and Antiquarian Society	From the Society.
Transactions of the Epping Forest and County of Essex Naturalists' Field Club	From the Club.
Annual Report of the Philosophical and Literary Society of Leeds	From the Society.
Journal of the Cambrian Archæological Association	From the Association.
Annual Report of the Royal Cornwall Polytechnic Society, 1880	From the Society.
Proceedings of the Liverpool Naturalists' Field Club	From the Club.
Journal of Psychological Medicine and Mental Pathology	
Annual Report and Transactions of the Plymouth Institution	From the Institution.
Proceedings of the Natural History Society of Glasgow	From the Society.
Journal of the Society of Arts	Ditto.
Transactions of the Manchester Geological Society	Ditto.
Transactions of the Edinburgh Geological Society	Ditto.
Journal of the Royal Historical and Archæological Association of Ireland	From the Association.
Proceedings of the Geologists' Association ...	Ditto.
Monthly Notices of the Royal Astronomical Society	From the Society.
Papers of the Eastbourne Natural History Society	Ditto.
Frost of January, 1881, over the British Isles ...	Mr. Marriott.

Caer Pensauecost, a long lost Unromanised British					
Metropolis	...	...	...	...	By the Author.
The Hurlers and Trethevy Stone, by C. W. Dymond					From the Author.
The Cape Catalogue	...	...	...	...	From the Royal Observa- tory Cape of Good Hope.
Proceedings of the Birmingham Philosophical					
Society	...	...	...	...	From the Society.

The report was adopted unanimously, on the motion of Mr. A. C. Willyams, seconded by Mr. Sharp.

Dr. Barham remarked that whatever gain they had made by Lord Mount Edgcumbe's presidency, they could not but regret the retirement of the Lord Bishop of Truro. (Applause). His lordship had been a most valuable and indefatigable president, and had introduced them to a sphere of usefulness which they could not have followed half as well under any other chief. He might now be supposed to have retired from the chair, and to have merely taken the place of their new president, the Earl of Mount Edgcumbe.

His Lordship said he could only look back upon the two years for which he had occupied the chair with shame. He could not in any way say that he had done his best, but he had wished to do his best, and on many occasions when he had been desirous of being more attentive to the Institution, and of attending the meetings, it had been impossible for him to do so. He was persuaded that these institutions,—and he knew of no institution of which it might be more truly said than that one, wielded an extremely important power, and he desired to see them exercising still more power than they had done of late. They were exceedingly cultivating, they induced numbers of people to feel a zeal and interest in scientific pursuits, and to put their observations on record, and they tended to promote a friendly feeling among such people. Referring to the visit to Looe, his Lordship said the Mayor and everybody vied with one another in making the society welcome, and received with great satisfaction the assurances from them of their desire to be useful to the whole county. His two years of office had passed quickly away, and certainly he had nothing to regret but that he could not be more at the service of the Institution. It was very satisfactory to know—though that had nothing to do with him—

that they could look back over those two years as a time when the members had been increasing, and he only hoped that in the next two years there would be another considerable accession of members. Another matter which had passed as a breath across the sky, was the possibility of uniting the various scientific societies of Cornwall. It would be premature to say anything about it, but perhaps he might be allowed personally to hope that such a union might come about. (Applause). Before the abolition of monasteries, and as late as the French Revolution, any learned person, wherever he went through Europe, found a home, and was free of the monasteries, and so passed from one to another. Of course, they never could hope to realise that state of things, but he did not see why the day should not come when scientific institutions should be free to each other, and when membership in one institution should mean membership in any other, just as one who had taken his degree in one university had nothing to do but to knock at the door, and be admitted to the same degree and to its privileges in any other university. There was a talk in Cornwall of getting a separate bill for another important matter, and why should not Cornwall also be the first to form all the local scientific institutions into one brotherhood, so as to be a complete membership? He did not know whether these things were a dream; those who know better about the circumstances of these institutions knew more about the matter than he did; but he thought it was a very delightful dream for all these institutions to become sections of one institution, and would cause the work now done by all these isolated little societies to be accomplished with a grander swing. He should be always willing to render the Institution any assistance in his power. They must allow him to congratulate them most heartily on the accession of their new president. They had one for their head who, he thought, would do great things for them. (Applause). Lord Mount Edgcumbe was an extremely accomplished and cultivated man, and they knew with what indefatigable zeal he carried out everything he undertook. He had never been requested to be in that neighbourhood for anything he could do, or any cause he could benefit, without making his arrangements immediately. He felt sure the advantage of having Lord Mount Edgcumbe as president for the next two years was an advantage they could not estimate.

His Lordship would have been there that day but for the sad cause with which they were already acquainted. That revered lady, who had passed away, was herself a very great collector, and was acquainted with archæological subjects in a remarkable way. She lived in that perfectly beautiful place—Cotehele—and was a worthy mistress of a worthy mansion. How widely her loss would be felt in East Cornwall! If it had not been for this terrible affliction Lord Mount Edgcumbe would have been with them that day. He knew they would all sympathise with him and his family in the loss of one so universally respected by all who knew her.

The following papers were then read :

“THE DEDICATION OF LANTEGLOS CHURCH, NEAR FOWEY,”
by E. H. W. Dunkin, *Corresponding Member*.

“DISCOVERY OF A CINERARY URN AT ST. BREOCK,” by the
Rev. W. Iago, F.S.A.

“THE QUETHIOCK CROSS,” by N. Hare, Jr., *Corresponding Member*.

“THE VENTILATION OF MINES,” by W. Teague, Jr.

“PRE-HISTORIC INTERMENT AT TRETHIL,” by C. Spence
Bate, F.R.S.

“CHURCH GOODS OF CORNWALL AT THE TIME OF THE
REFORMATION,” by H. Michell Whitley, F.G.S., *Hon. Sec.*

“AN ANCIENT INQUISITION,” by E. H. W. Dunkin,
Cor. Member.

Votes of thanks were passed unanimously to the Officers and Council for their services during the past year, to the Authors of papers submitted to the society, to the Donors to the Museum and Library, and to the Lord Bishop for presiding.

The Conversazione.

The usual conversazione was held at the rooms of the Institution in the evening, the Bishop again presiding.

THE EXCURSION TO LOOE.

Dr. BARIAM introduced the subject of the late excursion of the Institution to East Cornwall. He first alluded to the well

of St. Keyne, at which no halt was made, remarking that the well was now dry, the building in a dilapidated condition, and the trees almost gone. He also remarked upon the old Latin cross, which formerly stood in the churchyard, as alluded to at the morning meeting, and after pointing out that there were three holy wells in that district about a mile and a half from each other, he passed on to the Druidical circle close to Duloe, and other objects of interest along the route:

The BISHOP said he had been appealed to with reference to the legality of destroying the old cross at St. Keyne. He pointed out that particular care was taken to prevent any defacement of old stones. St. Keyne Church was restored in 1878, and he to-day heard for the first time that the ancient cross had disappeared. Six months ago he heard that some bosses were taken away from the roof of the same church and offered for sale. A letter was instantly sent to the authorities to know if the rumour were true. An answer was received that it was true, and the bosses had been sold, but it was satisfactory to know that they were secured by the authorities of another church, and what one architect had condemned as useless were secured by the architect of St. Ewe church, and were now placed in the north aisle of that church. Some inquiry must be made with reference to the ancient cross, and he hoped it would be found that it had not been broken up and used in the building as had been suggested.

Dr. BARHAM pointed out that the Institution was indebted to the kindness of Canon Harvey for the loan of the picture of Trelawne House, now exhibited.

The Rev. W. IAGO read an ancient document containing the autograph of Bishop Jonathan Trelawny, dated Trelawne, January 18, 1689. Mr. Iago quite agreed with the Bishop that something ought to be done to preserve these crosses and antiquities. There were in the church at Bodmin, bosses on which the names of the donors of the timber for the roof of the church were inscribed. Now, supposing those bosses were removed to any other Church, it would be supposed that those parties had given the timber for the roof of the second church, which, of course, would not be the case.

CURIOSITIES.

Mr. T. CORNISH introduced an ancient rhyme relating to the parishes of Davidstow, Altarnun, St. Cleather, Linkinhorne, Southhill and Stoke, which showed that no good feeling existed between these parishes at that time. Of the three former parishes it was written as follows:—

Dewstoe, Alternon, and St. Clether,
Dree roguish parishes one arter t'ether.

To which these parishes replied—

If turn't for Linkinhorne, Southhill, and Stoke,
Lanceston gaol doors need never be lock.

Mr. Cornish exhibited several curiosities, including a specimen of the *cerapus abditus*, a very peculiar composition—similar in appearance to honey-comb, only white, which was built up by little animals with small shells and sand. Within the last four years they had found four colonies inhabited by these strange little creatures in Mount's Bay, and a peculiarity about them was that when they were not eating they were always fighting.

Mr. Cornish also contributed an interesting paper on “The Senses of Fish.”

THE STONE FOR THE CATHEDRAL.

Mr. BUBB made a few remarks on the different sorts of stone which had been reported on for use in the Truro Cathedral—72 varieties in all. Mr. Bubb said that those 72 varieties of stone showed the great trouble which Colonel Cocks had taken in making the selection, and sifting the whole matter to the bottom, and making himself thoroughly acquainted with every point. They also showed the great trouble which the architect, Mr. Pearson, had taken in coming to a decision in the matter. He believed that he had found a limestone in Cornwall which was capable of burning an hydraulic lime. He was at present trying an experiment with some of it, and if it should turn out as he hoped it would, it would mean a considerable saving of money in the erection of the Cathedral. He pointed out the superiority of the Oolite over the other stones, and promised to give a course of lectures on the different specimens.

ECCLESIASTICAL SEALS.

The Rev. W. IAGO made some very interesting and amusing remarks on the ecclesiastical seals of Cornwall. He gave a very

minute description of the seals of the ancient priories at Bodmin, St. Germans, Launceston, and Tywardreath, the Dominican Friary at Truro, and of those of a number of the ancient Church dignitaries, and coming down to a more recent date, he described the seals of the Lord Bishop of the Diocese and the Archdeacons of Cornwall and Bodmin, in the designing of the last of these he took a very active part. With reference to it he explained the difficulty experienced in the representation of St. Petroc, particularly with regard to the hair. Mr. Borlase had stated* that the old British ecclesiastics used to shave their foreheads, leaving the hair in a straight line. The back hair hung down, but the front edge of it stood up like a saw, giving a most grotesque appearance. In the seal this was obviated by leaving the top of the head bald.

The BISHOP then briefly summed up the various matters that had been brought before the Institution during the day. He alluded at length to the question of the seals for the Diocese and the Archdeaconry of Bodmin, and expressed an opinion that that for the diocese would have been better had the bezants been arranged with only seven and a half in view, but Rouge Croix had designed it as shewn. He differed from Mr. Borlase as to the style of hair of the ancient British ecclesiastics. The idea that they wore it cut in the grotesque jagged manner described arose from a forced reading. He was convinced that the custom for the ecclesiastics was to wear the hair behind like ordinary persons, but shaved off in the front to a straight line from ear to ear, and the style adopted for the seal was therefore as correct as could be obtained. Having drawn particular attention to the value of the *Bibliotheca Cornubiensis*, his lordship read a few extracts from a paper sent him by the Rev. A. Reynolds, describing the disgraceful state of some of the Cornish churches in 1831, and concluded by especially thanking Mr. H. M. Whitley for his valuable paper upon Church goods.

Before the company separated, Mr. T. Cragoe drew attention to the fact that in Mount's Bay was to be met the rare dog's tooth grass, and that this was the only place in England where it was known. And Mr. Carne exhibited some valuable microscopic slides.

* "Ab aure ad aurem per frontem in coronæ modum incisus est capillus intonsus dependebat." (Ducange). R. I. of C. Journal, Vol. VI, p. 51.

TABLE No. 1.

Summary of Meteorological Observations at Truro, in Lat. 50° 17' N., Long. 5° 4' W., for the year 1881, from Registers kept at the Royal Institution of Cornwall.

1881.		MONTHLY MEANS OF THE BAROMETER. Cistern 43 feet above mean sea level.																
Month.	Mean pressure corrected to 32 deg. Fahr. at sea level.			Mean of monthly means.	Mean correction for diurnal range.	True mean of monthly means.	Mean force of vapour.	Mean pressure of dry air.	Corrected absolute maximum.	Day.	Corrected absolute minimum.	Day.	Extreme range for the month.	Mean diurnal range.	Greatest range from 9 a.m. to 9 p.m.	Day.	Greatest range in any consecutive 24 hours.	Between which days it occurred.
	9 a.m.	3 p.m.	9 p.m.															
January	29.874	29.858	29.861	in. 29.864	.004	in. 29.860	in. 0.175	in. 29.685	in. 30.501	9	in. 28.759	29	in. 1.742	in. .089	in. .43	19	in. .75	30 & 31
February	29.838	29.826	29.848	29.837	.003	29.834	0.255	29.579	30.304	21	29.167	10	1.137	.125	.57	11	.77	11 & 12
March ...	29.913	29.907	29.920	29.913	.007	29.906	0.253	29.753	30.617	18	29.156	5	1.461	.109	.38	23	.47	3 & 4
April	29.928	29.913	29.936	29.926	.004	29.922	0.263	29.659	30.300	28	29.647	5	0.653	.058	.22	29	.51	29 & 30
May	30.128	30.133	30.143	30.135	.003	30.132	0.310	29.822	30.679	11	29.611	19	1.088	.063	.35	16	.36	15 & 16
June	30.007	30.001	30.007	30.005	.001	30.004	0.365	29.639	30.341	29	29.464	21	0.877	.087	.27	22	.42	21 & 22
July	30.079	30.073	30.069	30.074	.002	30.072	0.410	29.662	30.366	13	29.474	31	0.892	.080	.22	6	.30	7 & 8
August ...	29.904	29.911	29.921	29.912	.004	29.908	0.407	29.501	30.346	4	29.497	26	0.849	.105	.26	19	.48	19 & 20
Sept	29.983	29.987	29.990	29.987	.004	29.983	0.365	29.618	30.358	29	29.367	21	0.991	.069	.27	20	.42	21 & 22
Oct.....	30.003	29.993	29.990	29.995	.006	29.989	0.299	29.690	30.523	7	29.153	23	1.370	.109	.32	31	.48	21 & 22
Nov	29.906	29.903	29.903	29.904	.004	29.900	0.335	29.565	30.423	13	29.013	26	1.410	.126	.53	26	.65	25 & 26
Dec	30.008	30.006	30.018	30.011	.003	30.008	0.244	29.764	30.640	26	29.240	20	1.400	.107	.41	22	.45	15 & 16
Means ...	29.964	29.959	29.967	29.963	.004	29.959	0.307	29.652	30.449		29.299							

REMARKS.—The Barometer used is a Standard, made by Barrow, and compared with the Standard Barometer at the Royal Observatory, Greenwich, by Mr. Glaisher. The corrections for Index Error (+0.008), Capillarity (+0.013), height above sea (43 feet), and temperature, have been applied.

TABLE No. 2.

MONTHLY MEANS OF THE THERMOMETER.

Month.	9 a.m.				3 p.m.		9 p.m.		MASON'S HYGROMETER.								SELF REGISTERING.						ABSOLUTE.			
	Dry Bulb.		Wet Bulb.		Dry Bulb.	Wet Bulb.	Mean correction for diurnal range.	True mean of Dry Bulb.	Mean of Wet Bulb.	Mean correction for diurnal range	Mean temp. of evaporation.	Wet Therm. below dry.	Mean dew point.	Dew point below Dry Therm.	Mean of all the Maxima.	Mean of all the Minima.	Approximate mean temp.	Correction for the month.	Adopted mean temp.	Daily mean range.	Maximum.	Day.	Minimum.	Day.	Range.	
January	33.7	31.4	39.8	37.4	34.5	32.9	0.4	35.6	33.9	0.3	33.6	0	31.0	4.6	42.0	28.0	35.4	0	35.3	14.0	0	53.0	31	12.0	15	41.0
February	42.2	41.0	46.1	44.4	42.3	41.0	0.7	42.8	42.1	0.5	41.6	1.2	40.8	2.0	48.3	37.1	42.7	0.1	42.6	11.2	0	54.0	2	25.0	26	29.0
March	45.0	42.8	49.6	45.0	44.0	42.6	1.0	45.2	43.4	0.6	42.8	2.4	40.7	4.5	52.0	39.0	45.5	0.2	45.3	13.0	0	58.0	17	19.0	1	39.0
April	48.8	45.4	53.0	49.2	47.5	45.3	1.6	48.2	46.6	1.3	45.3	2.9	41.7	6.5	55.4	42.1	48.7	0.1	48.6	13.3	0	65.0	16	31.0	21	34.0
May	57.5	52.2	60.2	54.0	51.9	49.7	2.3	54.4	51.9	1.4	50.5	3.9	46.1	8.3	64.0	45.9	54.9	0.8	54.1	18.1	0	77.0	31	35.0	11	32.0
June	60.1	55.1	62.8	55.9	53.3	53.1	2.9	56.5	54.7	1.7	53.0	3.5	50.2	6.3	65.8	50.8	56.3	0.3	56.0	15.0	0	81.0	1	37.0	9	44.0
July	63.9	59.0	67.0	60.0	59.5	57.0	2.1	61.4	58.7	1.2	57.5	3.9	53.5	7.9	70.8	53.8	62.3	0.3	62.0	17.0	0	83.0	17	37.0	28	46.0
August	60.8	57.2	64.2	58.1	58.5	56.6	2.0	59.2	57.3	1.2	56.1	3.1	53.3	5.9	66.9	53.0	59.9	0.3	59.6	13.9	0	76.0	5	41.0	2	35.0
Sept	57.5	54.4	62.8	56.7	53.4	51.7	1.7	56.2	54.3	0.9	53.4	2.8	50.2	6.0	66.3	46.6	56.4	0.2	56.2	19.7	0	70.0	18	36.0	16	34.0
Oct	50.9	48.0	55.0	50.0	48.5	46.5	0.8	50.9	48.2	0.6	47.6	3.3	44.9	6.0	57.6	43.3	50.4	0.4	50.0	14.3	0	65.0	1	25.0	31	40.0
Nov.	51.8	49.7	55.3	52.0	51.5	49.7	0.6	52.3	50.5	0.5	50.0	2.3	48.0	4.3	57.1	45.3	46.2	0.1	46.1	11.8	0	62.0	8	32.0	29	30.0
Dec	43.0	41.5	48.0	45.0	42.7	41.3	0.2	44.4	42.6	0.3	42.3	2.1	39.6	4.8	50.6	37.1	43.8	0.0	43.8	13.5	0	57.0	2	23.0	11	34.0
Means	51.3	48.1	55.4	50.6	49.1	47.3	1.4	50.5	48.7	0.9	47.8	2.7	45.0	5.5	58.1	43.5	50.1	0.2	49.9	14.6	0	66.8				

The Thermometers are placed on the roof of the Royal Institution in a wooden shed, through which the air passes freely. The Standard Wet and Dry Bulbs are by Negretti and Zambra, and have been corrected by Mr Glaisher.

TABLE No. 3.

WINDS.																														
1881.	E.			S.E.			S.			S.W.			W.			N.W.			N.			N.E.			AVERAGE FORCE.					
	9 a.m.	3 p.m.	9 p.m.	9 a.m.	3 p.m.	9 p.m.	9 a.m.	3 p.m.	9 p.m.	9 a.m.	3 p.m.	9 p.m.	9 a.m.	3 p.m.	9 p.m.	9 a.m.	3 p.m.	9 p.m.	9 a.m.	3 p.m.	9 p.m.	9 a.m.	3 p.m.	9 p.m.	9 a.m.	3 p.m.	9 p.m.			
Month.																														
January	2	2	3	6	4	3	0	1	0	4	3	3	1	1	3	2	0	1	13	16	16	15	20	14	16	24	29	27		
February	4	6	6	3	2	4	0	2	2	5	4	3	2	4	3	1	2	1	6	6	6	24	29	27	27	29	27			
March ...	3	3	3	4	3	3	1	1	1	4	5	4	3	3	3	9	6	5	4	1	4	24	30	25	26	30	25			
April ...	11	11	9	2	3	2	5	3	2	1	2	1	3	3	4	7	2	2	2	1	3	25	30	19	25	30	19			
May ...	4	3	4	3	1	7	1	1	2	7	6	6	4	5	3	10	3	3	2	2	2	25	30	16	24	30	16			
June	0	0	0	1	1	7	5	5	4	7	5	6	2	4	9	10	5	7	1	0	0	25	28	20	24	28	20			
July	1	1	1	2	1	6	2	2	2	6	6	6	5	3	8	12	5	7	2	0	0	18	25	14	19	25	14			
August ...	0	0	0	1	1	7	7	3	2	7	7	7	3	8	5	11	0	1	1	0	0	23	27	15	22	27	15			
Sept.	2	2	3	5	7	1	6	4	2	1	5	5	3	1	3	9	2	2	2	1	6	15	23	10	16	23	10			
Oct.	11	4	7	1	6	2	0	0	0	1	2	2	2	3	3	6	2	4	6	9	6	21	30	23	25	27	24			
Nov.	1	1	1	2	5	3	5	4	4	13	12	14	5	5	4	3	0	0	1	0	0	27	27	24	26	27	24			
Dec.	1	2	2	4	5	7	2	1	0	6	5	7	9	10	7	4	4	3	1	1	2	18	23	17	19	23	17			
Total	40	35	39	34	40	62	36	27	21	62	61	66	42	50	44	79	29	36	41	37	40	260	324	229	269	324	229			
Means ...	38			35			28			63			45			83			33			39			2.2			1.9		

TABLE 4.

1881.	WEATHER.													
	AVERAGE CLOUDINESS.				RAINFALL.				Mean weight of vapour.			SUN.		
	9 a.m.			Mean.	Rainfall in inches.		Greatest fall in 24 hours, Truro.	Date.	Mean additional weight required for saturation of the air.	Mean humidity of atmosphere.	Mean elastic force of vapour.	Mean weight in grains of a cubic foot of air.	Amount of water in a vertical column of air.	Wet.
	9 a.m.	3 p.m.	9 p.m.		Truro.	No. of days in which rain fell.								
Month.					in.	in.	in.	in.	grs.	grs.	in.	grs.	in.	
January	7.6	6.7	4.9	6.4	2.50	10	0.80	26	0.5	82	0.175	542.5	1.2	14
Feb.	8.2	7.7	7.5	7.8	4.36	16	0.81	9	0.3	92	0.255	534.4	3.5	22
March ...	7.0	6.8	5.8	6.5	3.86	14	1.00	3	0.5	85	0.253	532.3	3.4	15
April	7.4	6.8	6.5	6.9	1.36	11	0.57	10	0.8	79	0.263	530.0	3.6	10
May	5.4	4.5	4.6	4.8	0.79	8	0.33	17	1.2	74	0.310	522.5	4.5	5
June	6.8	5.7	6.8	6.4	3.29	15	0.83	20	0.9	81	0.305	520.1	6.7	15
July	6.6	6.4	5.7	6.2	2.69	11	0.95	30	1.4	77	0.410	514.8	5.6	9
August ...	7.2	6.9	6.8	6.9	3.55	18	0.55	8	1.0	82	0.407	516.8	5.6	9
Sept. ...	5.9	6.0	5.4	5.8	1.91	11	0.45	5	0.6	87	0.365	519.9	5.0	8
Oct. ...	6.0	6.5	5.5	6.0	2.98	13	0.50	23	0.8	80	0.299	527.7	4.1	14
Nov.	7.7	7.4	7.2	7.4	5.39	20	0.90	26	0.6	86	0.335	524.4	4.6	22
Dec.	6.7	6.7	5.6	6.3	4.92	17	0.90	16	0.5	84	0.244	533.3	3.3	20
Means ...	6.9	6.5	6.0	6.5	37.60	164			0.8	82	0.307	526.6	4.4	78
														14.0

Cloudiness is estimated by dividing the sky into ten parts, and noting how many of these are obscured. The rain gauge at Truro is placed on the flat roof of the Royal Institution, at about 4 feet above it, and 65 feet above the sea. Gleam is recorded when the sun's disk is visible through a film of cloud.

THE CHURCH GOODS OF CORNWALL AT THE TIME OF THE REFORMATION.

By H. MICHELL WHITLEY, F.G.S.,—*Hon. Secretary.*

Having had occasion to visit the Public Record office in the spring of this year, my attention was drawn to the Inventories of Church goods in Cornwall, taken under the various commissions issued during the reigns of Henry VIIIth and Edward VIth; and which on examination I found to contain much interesting and valuable information.

I therefore devoted what time I could conveniently spare to collecting as complete a series of these lists as possible, with the object of contributing a paper on the subject to our Society.

It is almost needless to say that the work was both difficult and tedious, and only those who have been so occupied can judge of the time and attention requisite; a day's search in documents of the crabbed handwriting of the period, and perhaps almost illegible from damp and age, sometimes resulting in no new fact worth recording being discovered.

The first of the Inventories of ornaments, plate, jewels, etc., appears in the Chantry* Certificates relating to Cornwall, Nos. 15 and 9 taken respectively, in the 37th year of Henry VIIIth and the 2nd year of Edward VIth.

These commissions were issued in order to ascertain the value of the possessions, plate, and jewels of the dissolved colleges, chantries, etc., what endowments, if any, should be left as desirable for the convenience of the parishioners, and what portion should be converted to the King's use; the property of these chantries having been assigned to the crown by the Act of 37 Henry VIIIth

The names of the commissioners appointed on the commission 37th Henry VIIIth (1545), mostly West countrymen, are

* A place where masses were sung for the repose of the souls of the dead.

John—Bushoppe of Exeter.
 Sir Rychard Edgecome Knt.
 Sir Hugh Trevanion Knt.
 Sir Gawyn Carow Knt.
 John Grenefeld Esq.
 John Arscot Esq.
 Nicholas Adams Gent.
 Philip Lentall Gent.
 John Ayleworth Gent.

Whilst the Commissioners of the 2nd year of Edward VIth 1547, are

Sir William Godolfyn Knt.
 John Graynfeld Esq.
 Henry Chyverton Esq.

Appendix I is an extract in tabular form of the returns of the ornaments, plate, jewels, and bells in these two chantry certificates, placed in juxtaposition for the purpose of easy comparison.

Some of the information noted by the commissions is of an interesting and particularly valuable character: Thus we find that Saltash was burnt by the French, whilst the inhabitants were at their parish church; and with reference to "The Chapell of our Ladye," at Penzance, it is noted that the "Mynstracon conveniently may not be spared for if the people went daily to their Pish Church the towne would be in peril of burning by the Frenchmen and other enemies in time of warre:" evidently from the fate of Marazion, Saltash, and Penzance itself, not an imaginary fear. And this entry further shews that at this period it was the custom to attend daily service. At Looe part of the jewels of the parish church were sold to repair the important bridge there, damaged by "the great surge of the sea." At Crantock, the plate and jewels of the Collegiate Church were hidden from the Commissioners in 1547 but discovered afterwards: "The fraternity of our Ladye of Dewstowe" (now Davidstow) possessed in the same year store of sheep and kine to the value of £10 6s. 8d., the only such instance recorded. Dame Thomasine Perceval's chantry and college at Week St. Mary was in 1545 a great comfort to all the county, from children being sent there to board and be taught; but two years after the schoolhouse is in ruins, owing, so it is stated, to its

being in a desolate place, and removal to Launceston is suggested. Some remains of this ancient building still exist. Whilst at the Chapel of our Lady of Park at Liskeard, we learn there were formerly great oblations.

Such are a few of the more noteworthy facts, in addition to the value of the possessions, plate, and jewels, etc., which the records of the Commissioners have preserved to us.

The second series of Inventories given with this paper are in Appendix 2, and are those of the plate, jewels, bells, etc., of the parish churches of Cornwall, taken in the 3rd year of the reign of King Edward VIth.

Their origin is thus accounted for.

The simplicity of the service of the reformed Catholic Church in England rendered useless the costly and gorgeous vestments and ornaments, which were a necessary adjunct to the preceding ornate ritual; and advantage was taken of this state of things by the patrons, wardens, and parishioners.

Vestments, jewels, ornaments, and in some instances even the lead from the roofs were taken from the churches and sold, and this went on without check; it was to prevent this that the King issued commissions to take inventories of all the Church goods, in order that they might be safely kept, and placed in charge of the proper persons to answer to the crown.

The commission under which the inventories for Cornwall referred to were taken was that of 1549. The lists were in duplicate, one copy remaining with the legal custodians of Church goods, the wardens of each parish,* who promised safely to keep the goods from loss, theft, and injury until the King's pleasure was further known.

Such being the object of the commission we come now to the result of the survey.

The Inventories preserved at the Public Record Office with the names of the Commissioners, are as follows :—

HUNDRED.	COMMISSIONERS
Stratton.	Sir Richard Graynfeld, Richard Chamond.
Lesnewyth.	Sir Richard Graynfeld, Richard Chamond.
Powder.	Hew Trewanion, John Carmynowe. Thomas Treffry.
West.	Sir Richard Edgecumbe, John Trelawny, William Bere.
Trigg.	William Carnsew, Henry Cheverton.
Kerrier.	John Reskymer, John Myllyton, John Killigrew, John Godolphin.

* See the Inventory of Church goods in the Churchwarden's accounts for Stratton.

The returns for the Hundreds of East, Pydar, and Penwith being missing.

Although only the survey for the Hundred of Kerrier gives a detailed list of the vestments, as well as the plate and bells, the other inventories being simply abstracts, the perusal of them will show that the churches of the county at this date possessed a rich and varied stock of church goods.

With regard first to the plate, we find crosses, chalices, pixes, censers, paxes, and cruets of silver, most abundant.

At Liskeard were formerly ten chalices of silver weighing 80 ounces; at Lansaloes two chalices weighing 50 ounces; at Gerens was a weighty silver cross parcell gilt, of 100 ounces weight; at Fowey was a censer weighing 36 ounces, and two chalices weighing 51 ounces; at St. Just-in-Roseland was a massive silver cross weighing 160 ounces; at St. Neot a weighty censer of 41 ounces; and at Bodmin a double gilt cross, with Mary and John.* Liskeard was the richest in the number of the pieces of its plate,—of the churches the weight of whose ornaments is given, for here, in addition to the ten chalices mentioned above, were formerly a silver cross parcell gilt, two silver censers, a paxe of silver and a shrine of silver, altogether weighing 165 ounces; although St. Just-in-Roseland surpassed it in the weight of its silver, which amounted to 199 ounces. The only instance where the sacred vessels were of a baser material than silver, was at Budock, where the two chalices were of latyn,—an alloy of copper and brass; no mention of a paten occurs in any of the returns.

Passing now to the ornaments, we find crosses of silver, silver parcell gilt, latyn, copper, latyn gilt, copper gilt, with banner of green tafita, etc.; pixes of silver, and of copper gilt; paxes of silver—the one at Bodmin reputed to contain a thorn of our Saviour's crown; censers of silver, brass, copper, and latyn; cruets for wine and water of silver and tin; candlesticks of brass and latyn. In the chancel at Mullion were two great candlesticks of brass; before the high altar in Gluvias Church stood two great chandlers of latyn; and at Landewednack were two pricketts† of latyn; a ship of silver for incense was at Fowey, (the only one mentioned in these Inventories for Cornwall,

* See Inventory of Church Goods, 1539.

† Candlesticks with a spike instead of a socket.

although in the returns for Devon they are continually enumerated, still one is given in the detailed return for Stratton in the Churchwardens' accounts, and at Bodmin in 1539 there were five); a silver ball at Bodmin, and a clock at St. Austell, the only one mentioned in the county, its dial cut in the stonework of the west face of the tower still remaining.* The bells were numerous, the most usual number in the tower was 3, there being 73 churches possessing that number, 35 had four, 5 had two, and only one—St. Anthony—one bell; at Breage the bells are especially mentioned as "bells of great burden," and the tenor there is still the largest bell in the county; many churches also possessed sanctus, lich or burial bells, and sacring or sacrament bells, the two latter being often hand-bells; at Glasney College the sanctus bell appears to have been called the "Marrowmass bell."† The only mention of an organ occurs with reference to this church, in a previous chantry certificate, but there were others in the county, Bodmin possessing a pair as well as Stratton.

Turning now to the vestments, although the returns for Kerrier are the only ones preserved, their number and variety at once attract attention, and there appears no reason to doubt that the other hundreds probably equalled, if not excelled, Kerrier in the richness of this class of Church goods.

We meet in these returns with copes and vestments of cloth of "Botkyn" or cloth of gold, the richest of all materials; of Lucca cloth of gold, of velvet, Morys velvet, damask, silk, Venice silk, satin, satin of Bruges, and serge; the greater number of the copes being of velvet, and of the vestments of velvet, silk, and satin: at Gluvias was "a cope and a hole sute of vestments of cloth of Botkyn;" Breage possessed amongst others a pair of vestments of blue velvet purple, broidered in gold work, as well as a cope of Morys velvet of purple, broidered in gold work; Ruan Minor had a pair of vestments of Venice silk, and a cope of satin of Bruges; and at Sithney were a pair of vestments of red, and another of yellow satin, of Bruges.

* There was a clock at Stratton made in 1513 at a cost of 10s., and one at Bodmin.

† In Kent the sanctus bell was often called the "Morrowmass bell."

Although a list of the vestments are not given in the inventories for Trigg preserved in the Public Record Office, the lists of the Church goods of Bodmin, preserved amongst the Corporation papers, show that it possessed a magnificent set of vestments. We read of copes of cloth of gold, of red and white velvet, and white damask embroidered with branches of gold, of copes of white and red satin of Bruges, of vestments of red, blue, and purple velvet, and white damask with flowers of gold, and of blue velvet branched with gold, etc. This parish also possessed three Jesus coats, four tormentor's coats, and two devil's coats, probably used in the miracle plays, and these vestments appear to have been in use as late as the 5th year of the reign of Queen Elizabeth; and at Stratton, in the churchwardens' accounts, an entry occurs in the 10th year of Elizabeth of money paid for mending the vestments, clearly showing that they were worn in that church as late as 1568.

Of surplices, we only find one at Landewednack, and one at Ruan Minor.

The colour of the copes and vestments for this hundred is in a large number of cases given, and may be summarised as follows:

	White.	Red.	Blue.	Green.	Yellow.	Black	Tawny.	Purple.	Not given
Copes	1	2	6	0	1	0	0	1	12
Vestments	4	4	7	1	3	2	2	0	25

From which table we see that the colour which most frequently occurs is blue; white, red, yellow, black, tawny, green and purple following in order.

This sequence, and especially the prevalence of blue, the colour of the Virgin Mary, shows that the use of ecclesiastical colours was not according to the Roman rule, but that which prevailed was the Sarum use (as probably the ancient British ritual) or perhaps a slight modification of it.

Some other interesting points are deserving of attention; thus in the returns for the Hundred of West constant mention is made of the sale of Church plate, for meat, drink, wages, and horses, when the men of the parish went west to resist "the rebellers;" and this entry occurs so often that we may assume that a general levy was made to put down the commotion which is commonly known as the Arundel rebellion.

But little plate appears from the inventories to have been stolen, but the parishioners themselves chiefly alienated the redundant pieces, selling it, as the entries often tell us, with the consent and assent of the whole parish, the money being converted to the common use, and doubtless in many cases the sale of discarded ornaments was resorted to, in order to meet the necessary expenses in the new fittings and alterations in the churches required by the Reformation. At Penryn we find the Market House was partly built from the proceeds of the sale of jewels from Gluvias Church, and at Morwinstow £6 was "borrowed" on the plate in order to finish the tower windows.

At the end of the separate inventories for the Hundred of Kerrier is a list bound up with it, headed "Coopes, Vestaments, Alterclothes as followeth;" this appears to have been restored to the Public Record Office with the returns for the before-mentioned Hundred: it is evident on inspection, from the magnificence of the vestments and altar cloths, that the inventory is that of the goods of a monastery, large church, or collegiate establishment. There is nothing to define to what church it belongs, and it may have been Glasney College, Penryn; it appears, however, to be of sufficient interest, when its position is considered, to deserve a place in a paper dealing with this subject, if only for the purpose of showing the magnificence of the vestments of a rich Church in those days, it therefore follows the Kerrier return as Appendix 3, and will be found deserving a careful perusal by those specially interested in the subject

We now come to a further commission, like to the foregoing in its scope, but presenting new features of interest: it was issued in January, 1553, for the conversion of such of the redundant plate, jewels, etc., as could be conveniently turned into money, and converted to the King's use. The directions to the Commissioners were, that they should take a just view, survey, and inventory of all goods, plate, jewels, bells, and ornaments; they were to take possession of the ready money, plate, and jewels, and to pay it into the Jewel House, leaving, however, in every Cathedral or Collegiate Church, one or two chalices, at their discretion, in a great parish one or two chalices, and in a small parish or chapel one, in fact all necessary for the decent performance of the ceremonies of the church. After the honest

and comely furniture of the communion table “they might distribute the linen amongst the poor, and sell the copes and vestments, and all bell metal, except the metal of one great bell and a saunce (or sanctus) bell,” the receipts to be paid to the exchequer, thus turning to the national use the redundant plate and discarded and obsolete vestments and ornaments.

No inventories for Cornwall by this commission are in the Public Record Office, but the names of the commissioners were

The Earl of Bedford.

Sir Richard Edgecumbe.

Sir Hugh Trevenion.

Sir Will^m. Godolfyn.

Thomas Treffry.

John Killebrew.

With reference to this same commission, there are a couple of letters preserved from Sir W^m. Godolfyn to the Commissioners of Church Goods. The first in order, undated, stating that John Gayer the bearer brought the account of plate, defaced, and delivered to the Jewel House, the remainder being restored to the parishes again; and the second, in 1556, reporting that he was instructed to re-deliver the plate again to the parishes, except that which was defaced, which was to go to the mint.

In the account of defaced and broken plate paid into the Jewel House by the Commissioners between 1st June 7th Edward VIth and 4th Feb. 1st Mary, the only entry I can find relating to Cornwall is as follows;—

Broken gilt plate CXXII. ^{oz.}	} CCCXIII ^{oz.}
Pcell* gilt and white CXCI ^{oz.}	

In addition to the Parish Churches—Inventories were also taken in 1555 of all the lead and bells belonging to the suppressed Monasteries and Priories, and the return of Robert Grove, (sometyme servant to Sir Thomas Arundell, Knight, late Receyor) is as follows for Cornwall:

Bodmyne, Launceton, St. Germans, Tywardreth, The friers in Bodmin & Truro.		At these houses were no leadd as I can learne by any man, but all the churches and houses were covered with blewe selatt called shingle.
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* Gilt inside or partially gilt.

Belles.

Launceton, iiij. Belles, xxvj.—xiii ^s —iiij ^d .	[As in comp ^t . del ^d . Thos. Arundell, am ^{tg} . c & xxxj ^{lb} vij ^{oz} As in comp ^t . c & xxvij ^{li} & vij ^{oz} .
Bodmyne, iiij. Belles xxxvij.—x ^s .	
The friers in Truro, ij Belles, vi ^{li} .	
Tywardreth, iiij Belles lxij ^s —iiij ^d .	

Bodmyne friers ij Belles sold with the building as apereth in comp^{te}. Tho^{ms}. Arundell, iiij^c & xxxi^{lb}—vij^{oz}.

St. Germans. There were iiij small belles wayenge by estimacon about xvj^c, whych belles John Champnon, Esquire, having the house and demaens then of the gifte of Kynge Henry the viiith, did sell to a marchant in Salteash named Hichins, but for what some or by what authoritie I cannot learne of any man."

In the account of J. Ayleworth of money received for Bells, etc., is an entry which shows that the bells of Launceston Priory were sold to Sir Gawyn Carrow, Knyght, for Forty Pounds.

In Vol. 67 of the Miscellaneous Books of the Augmentation Office, fo. 1746, is a certificate of the bells, lead, stone and timber of Glasney College. It will be found printed in No. 21 of the Journals of this Institution, p. 260, in Mr. Rashleigh's valuable paper on "The Glasney Cartulary."

Such is a summary of some of the more interesting facts contained in the Inventories of the church goods of Cornwall, and these returns themselves bear witness to the decent furniture of the parish churches at the time to which they refer.

The statements made by Froude and other authors that "a sweep cleared the parish churches throughout the country," that the "church plate of silver was confiscated and chalices of tin given in their place," and others of a similar import, are found on investigation to be without foundation.

When we consider that the total amount of silver plate paid into the Jewel House from Cornwall is only 314 ounces, whilst one church, St. Just in Roseland, possessed 199 ounces, we at once see what a small quantity was removed, and the letter of

Sir William Godolphyn in 1556 shews that he was instructed to re-deliver the plate not defaced to the various parishes again.

The object in view, as far as church goods were concerned, was to turn to the national use the superfluous church plate, jewels, and vestments, which were fast disappearing through unauthorised channels, leaving in each parish all that was absolutely necessary for the due performance of the ceremonies of the church.

APPENDIX 1.

Ornaments, Jewels, and Bells of the Chantries xiii Feb., 37 Hen. VIII 1545, extracted from Chantry Certificate Roll 15.

Parish or Town.	Name of Chantry.	Ornaments.	Bells.	Remarks.
Davidstowe ...	The fraternity of our lady of Dewstowe ...	xxxiijs viij ^d		
St Mary Weke	Dame Percevals Chantry	xxxvijs	...	A great comfort to all the county as children are sent to board there & be taught
Launceston ...	Hospital ...	None	...	Founded by the late Duke of Cornwall
Bodmyn ...	Nayler's Chantry	iijs iiij ^d		
„ ...	St. Laurence Hospital ...	xxx ^s		
Blisland ...	Burnard's Stip ^y	None		
South Petherwin ...	Menwenecks St ^y	xxvijs		
Lanteglos ...	Camelford Stipendary ...	xxxvj ^s	...	In a Chapel in Camelford founded by the Ancestors of Bodulgate
Penryn ...	Glasney Coll. ...	cliiij ^{li} viij ^d	vi	v great Bells & 1 little bell.
Helston ...	St John Baptists Chantry ...	xli ^s iiij ^d	...	Founded by John Bolegh
Do. ...	Or ladyes stipendy in the Chapell ...	xxxjs iiij ^d	iiij	iiij little Bells hanging in the west end of the chapell there.
Liskeard ...	Stipendary in the Church ... Clemens Chantry	liijs xxix ^s	...	Founded by John Kempe.
Talland ...	Lamans Chantry	None	...	In a chapel in a little Island (St Georges Island) service lately discontinued.
Saltash ...	Smythes Stipendary ...	xxvi ^s viij ^d		

APPENDIX I.

Ornaments, Jewels, and Bells of the Chantries, etc. xiiij Feb., 2nd Ed. VI, 1547, extracted from Chantry Certificate Roll 9.

Parish.	Chantry.	Value of Ornaments.	Plate and Jewels.	Bells.	Remarks.
Davidstowe 12	The fraternity of our Lady of Dewstowe	None	x ounces	C weights	Store in shepe } cxvi ^s viii ^d } xli xv ^s . viij in Keyn c ^s
St. Mary Wyke or Week St. Mary 6	At the Altar of St. John Baptist	v ^s	viiij ounces		Goods and household stuff lv ^s vj ^d Incumbent to keep a school, but now in ruins owing to being in a desolate place
Launceston 7	Stipendary in Ch ^h an obit in Ch. ...	None None	vij ounces None		
Bodmin 23 ...	Nayler's Chantry in the Pish Ch.	iijs ii ^d	None		People here very ignorant
Blisland 30 ...	A stipendary ...	None	None		
South Petherwin 5 ...	Menwenicks Stipendary.	None	None		
Do. 6 ...	Menwenicks Chantry ...	iijs iiij ^d	vj ounces di		
Lanteglos 17	Camelford stip.	xx ^d	vij ounces		
Penryn 1 ...	Glasney Coll.	xxvj ^{li}	Gylt ccc ounces pcell gilt cciiij ^{xx} iiij and silv. ccciiij ^{xx} xiiij	i M ^{li} weight by estimacon	Lead by estimacion xl ffoder viiij ffoder taken for the fortification of the Isles of Sylve Other goods left in the said college as Vestments, Aul- terclothes, Orgaynes, and other like Necessaries for ministracon there iiij ^{li} Stockes None. People here very ignorant
Helston 25	A Chapel of St John Baptist a chantry there	iijs	v ounces	Cj weight	
Do. 24	A stipendary in Chappell of our Lady	None	vij ounces	iiij C weight	
Liskeard 13	A Mass of Jesu in Ch.	None	None		
Do. ...	Kemps stip ^d ...	None	None		
Do. ...	Clemens Chantry	iijs	vj ounces		
Do. ...	Chapell of our Lady of Park	None	ix ounces	1 Bell Cweight	"In the said chapell was great oblations sometimes"
Talland 15	A free Chapell or Chantry in the Isle of Laman	ij ^s	vj ounces		
Saltash 19		ij ^s iiij ^d	viiij ounces		The town has been burnt by the frenchmen when the people have been at Church

APPENDIX I.

Ornaments, Jewels, and Bells of the Chantries xiii Feb., 37 Hen. VIII, 1545, extracted from Chantry Certificate, Roll 15.

Parish or Town.	Chantry.	Ornaments	Bells.	Remarks.
St Stephens by Saltash ...	Denys Parsons Stipendary ...	xxxijs		
Crantock ...	The College ...	None		
Columb M ^a ...	...	xxxs iiij ^d		
Truro ...	Lagharne's Stipen- dary ...	xxxs viij ^d		Lately discontinued.
Philleigh ...	Boscowsyn's Sti- pendary ...	xxvijs iiij ^d		
St Winnow ...	Kayell's Chantry	None		
St Michael Penkivel ...	Trenowyths Stipendary ...	xxijs		
Benekuddell ...	A free chapell ...	None	...	Menacuddle
S Buryan ...	Chantry & Dean ^y	None	...	Founded by King Adelston.
S. Tythe alias S. Issey ...	two Prcbendaries	None		
Endellyon ...	Treharrocks Preb Marney's Preb ^d King's Preb ^d	None None None		

APPENDIX I.

Ornaments, Jewels, and Bells, of Chantries, etc., VIIIth Feb., 2 Ed. VI, 1547, extracted from Chantry Certificate Roll 9.

Parish or Town.	Name of Chantry.	Value of Ornaments.	Plate and Jewels.	Bells.	Remarks
St Stephens by Saltash 20	Denys Parsons Stipendary ...	iijs	vjounces		
Crantock 3 ...	The College ...	None	...		xxviii ounces of plate concealed, but found by Comm ^r afterwards.
Gluvias 2 ...	A stipendary in the Church ...	None			
S. Columb Ma 21 ...	A stip ^y at the altar of the Trinity	None			
	A Chantry in Jesu Chapel	None	vijounces		
	Chantry in Arundell Chape	ix ^d	xxxviounces		
Stratton 9 ...	...	None	vjounces		
St Clear 14 ...	A Stip ^y in the Chapel of S James	ij ^s	xounces		
Truro 27 ...	Lagharn's Stipendary ...	None	ixounces		
Philleigh 29 ...	Stipendary in the Church ...	v ^s	vjounces		
S Winnow 28	Keysleys Obit. ...	None			
St Michael Penkevil 32	A Stipendary ...	xij ^d	ivounces	...	
Linkinhorn 41	Alhallend Chapell	One p ^r of Vestments of satyn of Bridges ij ^s	No chalices	1 little Bell.	iiij chapells altogether.
St Austell 23 ^b	Menacuddle Chapell ...	...	...	...	Entry torn off.
St Buryan 4 ...	...	None			
St. Issey 17 ...	Lusons Preb. Harmons Preb.	None	None		
Bosccastle 43...	St. James Chapell	None	viiijounces	CC ^l weight	
St Michael at Mount 42 ...	A Chapell ...	xxx ^s	xxijounces	ijC ^w weight	Besides 1 Chalice of viij ounces.
Penzance 44 ...	Chapell of Or Lady ...	None	vjounces	...	Mynstracon conveniently may not be spared, for if the people went daily to their Pish Church the towne would be in peril of burning by the frenchmen & other enemies in time of Warre.
Endellion 18...	three prebendaries	None	None		

APPENDIX I.

Ornaments, Jewels, and Bells of the Chantries *xiii*, Feb., 37 Hen. VIII, 1545, extracted from Chantry Certificate Roll 15.

Parish or Town.	Chantry.	Ornaments.	Bells.	Remarks.
Probus	...			
	Chudleigh's Preb ^d	None		
	Hull's Preb ^d ...	None.		
	Parat's Preb ^d ...	None		
	Elly's Preb ^d ...	None		
	— Preb ^d ...	None		

Total Value of the Ornaments, Plate
& Jewels beside the Bells CLXXVII^j^{li} xvjs iiij^d.
Jo ARSCOT
PHILIP LENTALL
JOHN AYLWORTH.

APPENDIX I.

Ornaments, Jewels, and Bells of the Chantries, etc., viij, Feb. 2 Ed. VI, 1547, extracted from Chantry Certificate Roll 9.

Parish or Town.	Chantry.	Ornaments.	Plate and Jewels.	Bells.	Remarks.
Probus 22 ...	Five Prebendaries founded by a Bishop of Exeter	None	None	...	No resident Prebendaries
S ^t Stephens by Launceston 8	A Stipendary ...	None	None	...	Founded by Rich ^d Carlyon
Kilkhampton 10	Certain Obits ...	None	None		
Lawanok 11 ...	A lamp light in... the Church ...	None	None	...	
S. Martin W. Looe 16 ...	Obits ...	None	None		Part of the Jewels of the parish Ch sold to repair the bridge damaged by the great surge of the sea.
Truro 26 ...	A Stipendary of the benevolence of the Mayor & Burgesses to Minister in the Church and keep a Schole	None	None		
S ^t Enoder 32	Tretherff's Stipendary ...	None	None		
S ^t Issey 33 ...	For two tapers burning before the high altar	None	None		
Notthill 34 ...	Margaret Rowland's Obit	None	None		
S ^t Stephens in Branwell 35	A lamp in the Church				
S ^t Creede 36...	two masses at the altar of Jhesu	...	...	...	A chapell called S ^t Annes chapell in the same parish
S ^t Eva 37 ...	4 obits ...				
Callington 38	An obit ...				
S. Veep 39 ...	An obit ...				
S. Kue 40 ...	An obit ...				
Tintagell 45 ...	Masses & dirges etc.				
Lansaloe 46 ...	An obit ...				
Morwinstow 47	An obit ...				

TOTAL.

Plate and Jewels weighing CCXXXV ounces-di.

Bells weighing by estimacon vij^mlⁱ cc weight.

Leade weighing by estimacon xli^li ffoeder whereof viij ffoeder y^s taken by vertue of a comysson for the fortyfyng of the Iles of Seley.

WILLIAM GODOLPHIN.
JOHN GRAYNFELD.
HENRY CHYVERTON.

APPENDIX 2.

C O R N W A L L .

Here folloth to this p^{sent} extracte and abridgement annexed all the xtracts and abridgements of all and all maner of plate and belles to evy pyshe wythn the said countie ptaynyng and belonging made according to the Inventories indented, certified by the psons churchwardens and other discrete persons of every pyshe within the seid countie unto us the Comissioners of the seid countie by virtue of the Kings Majesties Commission to us directed the pte of which Inventories indented doth remayne in the custody and keeping of the Churchwardens of the seid Countie and wee the seid comissioners have in all thyngs peyded according to the tenor and effect of the seid comission as hereafter in every pyshe followeth with the names of the comissioners in every hundred pertularly allotted and limited that is to say first the Hundred of West.

*The Hundred
of West.*

The extracte and abridgement of all and all maner of plate and belles to any pysse wyn the seid hundred particularly pteynyng and belongyng made at Liskerd in the said countie the xxvii^j daye of Apriell yn therd yere of the reigne of o^r. moste drede souverayne Lord Edwarde the sixte by the grace of God Kyng of England ffraunce and Ireland defender of the faythe and yn Crist immediatly under God of the Churche of England and Ireland the sup^{ine} hedde accordyng to the Inventoryes, indented, certified by the psons Vycars churchwardens and oth^r. distrete psōns of any pyshe within the seid Hundred unto us Richard Eggecombe Knyght, John Trelawny Esquire and Will^m. Bere Comissoners assegned and delyded yn to the said hundred by virtue of the Kyngs Majesties Commission to us and oth^r directed: the one pte of which inventories indented doth remayne in the custody and keepyng of the churchwardens of evy pyshe w^{thn} the seid hundred and have in all thyngs peyded accordyng to the tenor and effects of the seid comission as hereafter followeth, vidz—

*The pyshe of
Cardynham.*

The seid pyshe hath on chalys of sylver of eight unces. Item ffoure belles hangyng in their toure.

*The pyshe of
Warlegan.*

The seid pyshe hadd a crosse of sylver pcell gylte weyng xl unces which was sold the xvth. daye of Januarye yn the furste yere of the Kynges Majesties reigne that nowe is by the assent and consent of the hole pyrseners and the money then accounted to those of the seid prssoners.

Item the seid pyrseners hadd toe chalyces of sylver weyng xli unces.

Item a pixe of sylver wayng ffoure unces whiche toe chalyces and pixe were stolen the xxviii daye of Marche yn the second yere of the Kynges Majesties reigne that now is.

The said pyrsers hathe three belles hangyng in theire toure.

Item a holye belle.

Item a sanctus belle.*

*The pyshe of
Seynt Nyot.*

The seid pyssners have a crosse of sylver pcell gylte weyng xxx unces.

Item a sencer of sylver weyng xli unces.

Item a chalys of sylver pcell gylte weyng x unces

Item toe chalyses of sylver weyng xiiij unces.

Item a pixe of sylver weyng vj unces.

Of which crosse, sence chalyses and pixe the hole pysseners by their own assent and consent have to plegge to one John Salwaye and to other psons for the sume of xx. pounds of lawfull money of Ingland which is counted to the cōem use of the hole pyshe.

Item ffoure belles hangyng in the toure.

Item a sacryng belle.†

Item toe lyche belles.‡

*The pyshe of
Seynt Clere.*

The seid pyseners hath a crosse of sylvr pcell gylte weyng xl unces.

Item a cence§ of sylver weyng xiiij unces.

Item a chelys of sylver pcell gylte weyng xvj unces

Item a chelys of sylver weyng viij unces.

The which crosse, cence, and toe chalyses the hole pys of their com. assent and consent have put to pleydge to Stephyn Colle Rob^t. Barrant and ou of and for the summe of xxvli of lawful money which is counted to the common use of the seid pysse.

Item ffoure bellys hangyng yn theire toure.

* Often a hand bell.

† Sacrament bell.

‡ A burial bell.

§ Sencer.

*The pyshe of
Morvall.*

The said pyshenrs have toe chelyes of sylver weying xli unces wher of the seid pyshenrs solde one of thym by their coēm assent for to paye the charges of men of the same pysse for to ryde weste for to helpe to resist the last cōmocion.

Item a Latyn* crosse pcell gylte.

Item three belles hangyng in their toure.

*The pyshe of
Liskeard and the*

The sayd pyshnrs and burgesses have a crosse of sylver pcell gilt xl unces.

*boroghe of the
same.*

It. ij chalices of sylv^r pcell gilte weying xxx unces.

It. eight chalices of sylver weyng l unces.

It. ij sencers of sylver weyng xxxiiij unces.

It. a paxet† of sylver weyng vj unces.

It. a shryen of sylver weyng vj unces.

The whiche ij. chalices pcell gylte and one chalice weyng viij. unces the paxe of sylver the shryen of sylver and another chalice weyng vj unces and one of the sayd sencers of sylver were by the assent and consent of the whole pyshnrs and burgesses sold and converted theyre common use.

It. iij other of the seyd viij chalices of sylver wh^{ch} where belonging to the Chapell of our Lady at pke our Lady Lamelyn the chantry of Thomas Clemens S. Will^m. Godolphin Knight John Graynfeld and Henry Chyverton Comyssohrs of the chantry landes solde by virtue of theyre comysson to the Kyng's use the xv daye of Marche and the second yere of the Kings Maj^{ties}. reigne that now is.

Itm. in the bell house are iiij bells.

Itm. in the old toure ij small bells.

It. in iij chapells of the sayd pysh iij small bells.

It. ij Leche bells.

*The pyshe of
St. Keyne*

The seid pyshnrs have one chalice weying viij unces.

It. iiij bells hangyng in the tower.

Itm. a leche bell.

*The Pyshe of
St. Pynnok.*

The seyd pyshnrs have ij chalices of sylver weying by estymacon xiiij unces.

It. a pyxe of sylver pcell gylte weying vj unces.

It. iij bells hangyng in theyre tower.

* An alloy of copper and zinc. † A small tablet of ivory overlaid with gold or some other precious metal with a representation of the Passion.

*The Pyshe of
Duloe.*

The seyð pyshners have ij. chalices of sylver.
Itm. iiij bells hanging in theyre tower.

It. a pyxe of sylver w^h. was stolen the xxth daye
of October.

*The Pyshe of
St. Martyn and the
towne of Est. Looe.*

The seyð pyshners and towen have a chalyce pcell
gylte and a chalyce of sylver weying bothe xxx
unces.

Itm. a sencer of sylver.	} All this Jewells was sold by the assent of the hole pyshe and the moneyether- of converted to the common use of the same.
It. a paxe of sylver.	
It. a pyxe* of sylver.	
It. ii cruetts† of sylver.	

Itm. there remaining in the tower of the pyshe iiij
bells.

*The Chapell in
towne of Est. Looe.*

Itm. their remaynith a chalice pcell gylt weing xxj
unces.

Itm. in the steple there remayneth iiij bells.

*The Pyshe of
Talland and the
towne of West
Looe.*

The seyð pishners have one chalice pcell gilte weying
xij unces.

Itm. a chalice of sylver weying viij unces.

Itm. a pyxe of sylver pcell gylte weying one unce
and a halfe.

Itm. thre bells hanging in theyre tower.

Itm. there remayneth a chalice pcell gilte in the
chapell of the sayd towne weying vij unces.

It. to the sayd chappell belongeth ij bells hanging
in theyre tower.

*The pyshe of
Plewynste.*

It. the sayd pishners have a crosse of sylver pcell
gylte weying xl unces.

It. iiij chalices of sylver pcell gylte weying xxx
unces.

It. a pyxe of sylver weying one unce and a halfe.

It. thre belles hanging in theyre tower.

*The pyshe of
Lanraythow.*

The seyð pishners have a pyxe of sylver weying ij
unces.

Itm. two chalices of sylver weying xxj unces.

It. iiij belles hanging in theyre tower.

*The pyshe of
Seynt Vepe.*

The seid pysheners have a crosse of sylver pcell
gylte weying xxli unces.

Itm. toe chalyce of sylver pcell gylte weying xli
unces.

* A vessel of gold or silver to hold the sacrament. † To contain the wine and
water used at the altar.

Itm. toe chalyce of sylver weying viij unces.

Itm. a sence of sylver weying liij unces.

Itm. a pyxe of sylver weying toe unces.

Itm. a paxe of sylver weying iij unces.

Itm. three belles hangyng in the tower.

Itm. toe leche belles.

Of the which jewels the seid toe chalyses of sylver weying viij unces where sold by the assent of the hole pysheners for to conducte men and for mete and drynke and for their wages and horses when the pysh went west to resist the comocion.

*The pyshe of
Lansalowes.*

The seid pysheners have toe chalyses of sylver weying 1 unces.

Itm. a pyxe of sylver weying one unce.

Itm. three belles hangyng in their tower.

Itm. a leche belle.

*The Pyshe of Lante-
glos and the towne of
Polruan.*

The seid pysheners have a pixe of coper and gylte

Itm. a broken crosse of sylver weying xl unces.

Itm. toe chelyces of sylver weying xliij unces.

Itm. a senar* of sylver weying xiiij unces which senar is put to plegge for C^{sd}. by the assent of the hole pysheners for to paye xxvj men their wayges and for their horses which men where sent forth by the hole pyshe for to helpe to resist the late comotion in the west.

Itm. ffoure belles hangyng in their toure.

Itm. a leche belle.

Itm. in the towre of the Chapeil at Polruan toe belles.

*The psyche of Seynt
Martin de Repryn.*

The seid pysheners have a chalyce of sylver weying vj unces.

Itm. toe belles hanging in the toure.

*The pyshe of Seynt
Nyghtens.*

The seid pysheners have toe chalys of sylver weying xij unces.

Itm. toe belles hanging in their towre whereof one chalys of sixe unces and one belle is solde by the assent of the hole pysse for mete drynke and horses for the caryinge of men of the seid pysse when they went west to resiste the last comocion.

* Censer.

*The pyshe of Seynt
Wynnaw.*

The seyd pysheners have a pike sylver weying one unce and half.

Itm. toe chalys of sylver weying x unces.

Itm. three belles in theyr toure hanging.

And that the seyd pyshe are indebted unto Will^m. Loure there captayn when they whent west warde in the Kings Majesties affares agnst the rebellers of the west in Five Pounds x^s. whereof the seyd Will^m. Loure at the requeste of the whole pysh^{rs}. debursed—and remayneth yet unpayde.

*The pyshe of
Boconnok.*

The seyd pysheners have three belles hanging in their towre.

Itm. a chalys of sylver pcell gylte weying xiiij unces & di.

Itm. a pike of sylver weying one unce and half.

Upon the which chalys and pike the seyd pysheners have borowed of one John Doynge and John Coyohe foure pounds for the charges of xliij men and as many for their mens drynk and wages when they rode west warde for to helpe resiste the last comocion by the assent and consent of the whole pysheners.

*The pyshe of
Brodok.*

The seyd pysheners have three belles hanging in their towre.

Itm. a chalys of sylver weying viij unces.

Rychard Eggecumbe.

John Trelawny.

Willm^o. Bere.

CORNUB.

*Hundred de
Stratton.*

A brieff abstracte of the Inventores of all the plate and bellys belonging to all the pish Churches within the seyd Hundred takyn at Stratton the sixth daye of Maye by S^r. Richard Graynfeld Knight and Rich^d. Chamond Esquyer Comissioners in the therde yere of the raine of our soüanign Lord Edward the sixth by the grace of God of Ingland France and Irelande King defender of the fayth & in erthe of the Churches of Ingland and also of Irland suprim ruller.

*Marham church
Pyshe.*

One chalys of sylver.
iiiij Belles.

<i>The Pyshe of Jacobstowe.</i>	One chalys of sylver iiij Bellys.	
<i>The Pyshe of Byton.</i>	One chalys iiij Bellys.	
<i>The Pysh of Launsowe.</i>	ij chalcys iiij Bellys.	
<i>The Pyshe of Poughyll.</i>	One crosse of sylver ij chalcys iiij Bellys.	
<i>The Pyshe of Seint Marywyke.</i>	ij chalcys iiij Bellys.	
<i>The Pyshe of Wgytstonne.</i>	One chalys One Pyxe iiij Belles.	
<i>The pish of Morwynstowe.</i>	One crosse of sylver One chalys iiij Bellys.	} Where upon ys borowyd vi l ^d . } for the ffyingssging of the toure } wyndowes of the same church.
<i>The pish of Stratton.*</i>	ij chalycys One pyx iiij Bellys.	
<i>The pish of Tamerton.</i>	iiij chalycys iiij Bellys.	
<i>The pish of Kilknampton.</i>	ij chalycys One pyxe. iiij Bellys.	
		<i>p^r. me Rich^d. Graynfeld.</i>
		<i>p^r. me Rich^d. Chamond.</i>
	Pixes iiij.	
	Crosses ij.	
	Chalices xvij.	
	Belles xli.	

In the Churchwardens' accounts of Stratton, which are published in *Archæologia*, Vol. 46, by Mr. Edward Peacock, F.S.A., occur two undated inventories of church goods. The first appears to belong to the Commission of 1549, and is as follows :

* See the detailed Inventories for this church, extracted from the churchwardens' accounts of the parish, appended to this return.

- It. to chalys.*
 It. a sute off vestmentes off damask.
 It. a sute off blake worstyed with to copes.
 It. a pere off vestments off Rede velvett.
 It. a pere off vestmentes off † lekeys gold.
 It. a pere off vestmentes off whyt damaske.
 It. a pere off vestmentes off blewe satyn.
 It. a pere off vestmentes off yalow selke.
 It. thre frontes off selk with a pere off cortyns.
 It. viii pere off serpylles & iiij Rochett.
 It. iiij Auter towyl.
 It. a pall for a herse.
 It. to crose bauners & a streamer of selk.
 It. to howselyng‡ towelles & ij faut cloth.
 It. a Rede ffront.
 It. a cloth ffor the sacrament.
 It. a pere of sensers.
 It. a crosse & a staffe of copper gellte.
 It. a pexe of copper.
 It. a sence of copper.
 It. a scheppe.§
 It. a latyn basyn.
 It. a pere of candelstykes.
 It. a cope of velvette and a per of vestmentes of.....
 It. x peces of velvett and a per of vestmentes of.....
 It. a Lantran and a newe deske cloth.
 It. a new rowde clothe.

The other undated inventory is in the handwriting of the person who kept the accounts in 1533, and is most probably the return to the Commissioners of church goods in that year, and if so will be the only one we possess for Cornwall, and is as follows:

The cownt of the Church Stuffe.

- It. a chales, a sutt of blak worsted with ij copes, but ther
 lakyth a.....
 A per of vestements of Red velvett.
 A per of vestements of lukes gold.
 A per of vestements of whyt damask.

* Two. † Cloth of Gold from Lucca. ‡ Altar Towels. § This was a vessel in form of a beat to hold incense, the entry in the Churchwardens' account in 1532 being "Paid for a shype to hold frankinsens iijs. viijd.

- A per of yello sylk ij frontes of yello sylk with ij cortens.
 A per of Serpelles and iiij Rochattes iiij Auter clothes and one towell.
 A clothe for the pyxe and ij fawnt* clothys v corporis cassis and ij kyerchares.
 A letten basen & a per of candell stykes.
 A skones a chessabell of blewe sylk.
 A carpett for the tabell.

CORNUB.

*The hundred
of Lesnewyth.*

A bryff abstracte of the Inventories of all the plate and belles belonging to all the pyshe churches w^hin the seid hundred, taken at Botreaux Castell, the vjth day of May, by Sir Rychard Greynfeld Knight & Rychard Chamond Esquire commissioners yn the thyrde yere of the reigne of our sovayne lord Edward the vith by the grace of God of England France and Irelande Kyng defender of the faythe and the supreme hed of the church of England and Ireland.

*The pyshe of
Dewstow.*

One chales of sylver
iiij Belles.

*The pyshe of
Lanteglos.*

One chales of sylver
iiij belles.

*The pyshe of
Warbestow.*

One chales of sylver
iiij belles.

*The pyshe of
Oterham.*

One chales of sylver
iiij belles.

*The pyshe of
Mighelstow.*

ij chalyses of sylver
iiij belles.

*The pyshe of
Mynster.*

i chales of sylver
iiij belles.

*The pyshe of
Seynt Julott.*

ij chalesses of sylver
iiij belles.

*The pyshe of
Treneglos*

i chales of sylver
iiij belles.

* Font cloths.

<i>The pyshe of Alternon.</i>	ij chalesses of sylver iiij belles.
<i>The pyshe of Seynt Cleer.</i>	i chales of sylver iiij belles.
<i>The pyshe of Lesnowyth.</i>	One chales of sylver iiij belles.
<i>The pyshe of Forrebery.</i>	i chales of sylver iiij belles.
<i>The pyshe of Trevalga.</i>	ij chalyes of sylver i pixe of sylver iiij belles.
<i>The pyshe of Tyntagell.</i>	One chales iiij belles A case of sylver which bare the sacrament.
<i>The pyshe of Seynt Genes.</i>	One chales iiij belles One pyxe of sylver.
<i>The pyshe of Poundestock.</i>	ij chalyes of sylver. iiij belles.

p. me Rich^d. Greynfeld.

per me Rich^d. Chamond.

Crosses nil.
Chalices xxi.
Belles liij.
Pixes iiij.

CORNEWALL.

<i>The hundred of Trigge.</i>	The extracte and abridgement of all maner of plate and belles app'teynyng to evy pyse church within the sayd hundred.
<i>The pyse of Egoshayle.</i>	The sayd pysh hathe ij chalices of sylver It. iiij belles in the tower there.
<i>The pyse of St. Mabyn.</i>	The sayd pysners hathe a chalyce of sylver pcell gilte It. one other chalice of sylver It. iiij Belles in the tower there

<i>The pyse of St. Etha.</i>	The sayd pysners hath one chalyce pcell gilte. It. iij Belles in the tower there.
<i>The pyse of St. Tudy.</i>	The sayd pysners hathe one chalyce of sylver. It. iiij Belles in the tower there.
<i>The pyse of St. Keu.</i>	The sayd pysners hath a chalice of sylver through It. a chalice of silver pcell gilte [gilted] It. iij Belles in the tower there.
<i>The pyse of Bodmyne</i>	The sayd pysners & burgesses hath a crosse of sylver It. iij chalices of sylver
<i>The borgh.* of the same.</i>	It. a ball of sylver It. iiij belles in the tower there.
<i>The pish of Mynver.</i>	The sayd pysners hath a chalice It ^m . iiij Belles in the tower
<i>The pish of Hellond.</i>	The sayd pysners have a chalice It ^m . iij Belles in the tower.
<i>The pish of Bruard.</i>	The sayd pysners hath ij chalices of sylver It ^m . a pix of sylver It ^m . in ther tower iiij belles.
<i>The pish of Blisland.</i>	The said pys'ners have ij chalices of sylver It ^m . a pix of sylver. It ^m . in ther tower iij belles.
<i>The pish of Delyon.</i>	The said pys'ners have ij chalices pcell gylte. It ^m . in ther tower iiij belles.

Crosses i.
S^m the chalices xix.
Pixes ij.
S^m the Belles xli.
Balle of Silver i.

By me Will^m. Carnsew.

By me Henry Cheverton.

* See the detailed inventories of Church Goods for this Parish

*Inventory of the Goods of Bodmin Church, taken in the 31st year of
King Henry VIII, 1539.*

Furst a crosse of sylver and dobyll gylt, with Mary and John of the gyft of John White and a staff to bere the same crosse of latyn and gylt.

It. a noder crosse of sylver and gylt, and a staff of latyn to bere the same crosse.

It. too candelstycks of sylver.

It. too sensers of sylver.

It. too shippes* of sylver and 3 of sylver.

It. to boxes of sylver and one of them 4 square.

It. to paxes of sylver and gylt and in one of them one of the thorns that crownd our Savour Crist Ihu.

It. too cruetts of sylver.

It. 4 chalices of sylver and dobell gylt to the high auter belongyng and 3 corpes cases with 4 corpis.

It. a chalyshe to Seynt Leonard is chapell.

It. a chalys to the Bery.

It. a chalys to Seynt Auyan.

It. a chalys to Seynt Dunstan.

It. a chalys to corpus xpi.

It. a crosse of sylver with the farmers of the Bery.

It. a coope of cloth of golde.

It. a coope of cloth of Tussew to the Bery.

It. to coopps of red velvet with branches† of golde.

It. a coope of white damask with branches of golde.

It. too coopes of white satyn‡ of bregis.

It. too coopes of red satyn of bregis.

It. 3 coopes of blewe velvet with branches of gold.

It. a coope of blewe velvett.

It. too coopes of cours blewe.

It. a sewte of vestyments of red velvet with flours of golde.

It. a sewte of vestyments of white damaske with flours of golde.

It. a sewte of vestyments of blewe velvett with flours of golde.

It. a sewte of vestyments of blewe velvet branched.

It. a pere of vestyments of purpell velvett with flours of gold of the gyft of Amy Hewett.

* A vessel in the form of a boat for incense.

† Embroidered probably with tendrils of the vine in gold needlework.

‡ Satin of Bruges.

- It. a pere of vestyments called molybere.
 It. a peire of vestyments of yelowē sylke for feryall dayes.
 It. a chesybell of sylke and gold.
 It. to pelowys of blewe wostede.
 It. 8 pecis for the sepulcor.
 It. too peces stayned that came from the pson of Bleston.
 It. a clothe of whyte sylke with a crosse.
 It. 4 lent clothes* that is to say, one for the crucifix, the seconde for our lady, the 3rd for the Trynyte, and the 4th for the pety of Seynt Gregory.
 It. aparell for the high auter of rede selke and grene.
 It. another aparell of yelowē and grene satyn of bregis.
 It. a front of molyber.
 It. 8 towells to cover the hie auter, one of them
- It. 7 wasshyng towells.
 It. 3 vant clothes.
 It. one serples of holond.
 It. 7 serples of bokerham.
 It. 4 Rochetts.
 It. a boxe of evory with a lake of sylver.
 It. 6 crestail stonys.
 It. too peces of Tappestory to set a fore the hie auter.
 It. too latyn standards† and 5 other latyn candailstikks to the hey auter belongyng.
 It. a cloth of estate with his apparell.
 It. 3 pelolowis, one of velvet, anoder of sylke, and the 3rd dowyns for the best crosse.
 It. to fete of latyn for the crosses.
 It. one launtern.‡
 It. to baners of sylke for the crosse.
 It. 4 stremers of sylke.
 It. too hers clothes, one of black velvett and the oder of Bokeram.
 It. a bason of latyn and every, of tyn bi the fonte.
 It. 4 lecten clothes.
 It. 3 polyes of bras with ther bolts of iron in a coffer wyth Relyquys in the councell house.
 It. a lake of sylver.....for good frydays...to sup altar.
 It. a little boxe with relyques.

* Clothes to cover the images during Lent.

† Two great candlesticks to stand before the high altar.

‡ A lantern to bear before the sacrament

- It. a front of.....
- It. a towell of the gyft of Willm.....
- It. 2 Masse books, 3 graylis,* ye...prented and one wretyn, 7 peessynal† and one wretyn...manewels‡ 2 comemoracons, 7 portewys§ to sawter bokes, a legent,¶ a pye, 4 queres of the new festes, a pystyll boke and a gospell booke, and to preckesong** bokes of the gyfte of Willm Suthcot.
- It. a chalys to the fraternyte of Seynt Pedrocke belongyng.
- It. a pere of vestements w^t the dolphyns, of the gyfte of Sir John Symon.
- It. one Jesus cotte of purpell sarcenett.
- It. a Jesus cotte.....
- It. a sewte of vestyments of cremsyn velvett and a front to the high awter of botkyn†† of the gyft of docter Tregonwell
- It. a towell on the high awter of the gyft of Jenet Harry.
- It. 4 tormenteris cotes inkepyng one w^t John Vyvyan, a noder w^t Thomas Bligh, the 3rd w^t Nicholas Opy, and the 4th w^t Richard Corant, made of a sewt of vestyments for goode frydayes.

Inventory of the Church Goods of Bodmin Church preserved amongst the Corporation records.

Sunday after the feast of St. Mychell the Archangel, 8 Q. Elizabeth.

"Fyrst fyve belles with one which servyth for ye clock, to be rung dayly at fflower of the clock ynn the morning and at eyght ynn the evynyng a warning bell for printyses and others.

Item one vestment of grene satyn of bryddes.||

Item one hole sute of blewe velvet, decon, subdecon and pistholere, a pere of vestments of whyte damaske, one cope of red satyn of bryddes

Item a vestment of blue velvet one whyte cope of satyn.

Item One whyte vestment of satyn more toe copes used on good fryday and a obe of sylck.

Item One crosse baner of grene sylck.

Item One frunt of yelo grene satyn of bryddes toe cortens whereof one of sylck A nuther frunt of Arres a nother front of sey and a curtns of the same.

* A gradual or book, containing the portions of the service of the Mass, sung by the Choir.

† A book containing the service in which processions were used.

‡ A book of occasional offices. § A breviary. ¶ A legend book.

** Two Music books. †† Cloth of Baudakin,

|| Satin of Bruges,

Item cushyn of velvet for the commuyon tabell and a
cushyng of sylck for Mr. Mayer ys chere and a cloth of cheker
work for Mr. Mayer ys chere.

A shype of tyn.

viiij pere of surpeles with one new for Mr. Vycar.

iiij^{or} rachetes a bybell and of Erasmus.

ij pere of candlestycks a basen of laten a lampe before the hye
auter corporl of red velvet and a nother of green a
corpus cloth one dex cloth, toe stoles for sett at the comunion
tabell a herse cloth of velvet and a nother of black bocrom
.sencer, of latten too lent cloths for ye commyon tabell.
ij polys one of brasse and a nother of yren ij newe vant clothes a
sacryng bell a cruat ij Jesus cotes ij red worsterd and one of
red bocrom ij tormenttowers cotes of satyn of bryddes of yelo
and blue ij. cappes of sylck toe develes cotes wherof
one ys newe a crowne of black a nother . . . for . . . a . . .
ell of a cross and a nold crosse one comonyn cup of sylver and
one other gylt w^{ch} hery Cock vsed at Weddynges andry
and toe clotts of led.

HUNDRED DE POWDRE.

Cornub.

The Survey of the plate and Bellys of every Pysche
wⁱⁿ the hundred of Powder ad sequit^r.

*Sent Stephyns
yn Branell.*

Item iiij. Bellys conteynyng in wyght by estymacyon
thre thoesande & iiij^e.

Item a cross of silver gylte the value of xlxx^{li}.

Item a sencer of silver of the value of v^{li}.

Item a chalys of silver gylt xj unces.

Item two chalys of silver parcel gylte of xij unces.

*Parochia de
Gerens.*

Item iiij Bellys the wyght unknowyn.

Item ij Chalyes of sylver parcel gylte of xiiij unces.

Item a crosse of sylver parcel gylte of iiij^{xx}. &
xx unces.

*Parochia de
Austell.*

Item iiij Bellys and a Clok ye wyght unknowyn.

Item a poreyon of a crosse of sylver and gylte of
ij and xx unces.

Item a sylverne sencer of xxvj unces.

Item ij Chalice of xiiij. unces

Item ij Chalice of sylver of iiij unces,

<i>Parochia de Allyn</i>	Item iiij Bellys the wyght unknowyn. Item a chalyce of sylver parcel gylte of xvi. unces
<i>Parochia de Kee,</i>	Item iiij Bellys wayng by estymacyon xx ^c . Item ij chalyce of sylver parcel gylte xx unces.
<i>Parochia de Ladock.</i>	Item iiij. Bellys contaynyng yn wyght by estymacon two thousand & one hundred. Item one chalice of sylver of vi unces.
<i>Parochia de Caryhays</i>	Item iiij Bellys the wyght not knowyn. Item a Chalyce of sylver of iiij unces.
<i>Parochia de Erme</i>	Item iiij Bellys wayng by estymacyon iiij m ^o . Item ij Chalyses wayng xiiij unces.....
<i>Parochia de Elerky</i>	Item iiij Bellys wayng by estymacyon iiij m ^o exmtn Item a Chalyce of sylver Gylte wayng xiiij unces. Item a Chalyce of sylver wayng xvij unces. Item a cross of sylver wayng $\frac{xx}{iiij}$. iiij. unces.
<i>Parochia de Probus.</i>	Item iiij Bellys contaynyng in wayght by estymacon m ^o . m ^o . m ^o . lii. Item a chalyce of sylver viij unces.
<i>Tregony.</i>	Item iiij Bellys the wyght not knowyn. Item ij chalyses xiiij unces.
<i>Parochia de Lamoran.</i>	Item iiij Bellys of xiiij ^c . Item j Chalyce of v unces.
<i>Parochia de Merther</i>	Item iiij Bellys contaynyng viij ^c . & di. Item a Chalyce of sylver parcel gylt xij unces.
<i>Parochia de Antoney.</i>	Item one Bell the wyght not knowyn. Item a chalyce of sylver of iiij unces.
<i>Parochia de Rowan.</i>	Item iiij Bellys wayng ix ^c . Item a crosse of sylver of xxxviij ^u . unces. Item a chalyce of sylver parcel gylt ix unces. Item a chalyce of sylver xiiij unces di.
<i>Parochia de Feock.</i>	Item iiij Bellys wayng m ^{li} . Item ij chalice parcel gylte xxiij unces.

<i>Parochia de Kenwyn</i>	Item iij Bellys wayng m ^o . m ^o . li. Item ij chalyce of sylver parcel gylt xvj unces.
<i>Parochia de Lostwythyell.</i>	Item iij Bellys wayng xj ^c . Item ij chalyce of sylver xvi unces. Item a senser of sylver viij unces.
<i>Parochia de Penkevell.</i>	Item iiij Bellys wayng m ^o . m ^o . vi ^c . Item ij chalice of sylver parcel gylte xxxij unces.
<i>Parochia de Flyle.</i>	Item iij Bellys wayng m ^o . m ^o . m ^o . lx ^{li} . Item ij chalice wayng xiiij unces. Item a cross of sylver gylt wayng lxx unces.
<i>Parochia de Fowye.</i>	Item iiij Bellys wayng m ^o . m ^o . m ^o . m ^o . li. Item a Senser of sylver wayng xxxvi unces. Item a chalyce of sylver wayng xij unces. Item ij chalice gylt wayng li unces. Item a shyppe* of sylver wayng x unces.
<i>Parochia de Luxulyon.</i>	Item iij Bellys the wyght not knowyn. Item ij chalices of sylver wayng xij unces.
<i>Parochia de Crede.</i>	Item iij Bellys wayng xj ^c . Item a chalyce of sylver wayng vii unces.
<i>Parochia de Mevagysy.</i>	Item iij Bellys wayng xv ^c . Item a chalice of sylver parcel gylt v unces.
<i>Parochia de Denys.</i>	Item iij Bellys wayng — Item ij chalice of sylver xij unces.
<i>Parochia de Trewardreth.</i>	Item iiij Bellys — Item ij chalice of sylver in value vi ^{li} . Item ij Cruettes of sylver in value xiiij ^{li} . v - iv ^d . Item a pax of sylver in value iiij ^{li} .
<i>Parochia de Ewe.</i>	Item iij Bellys wayng — Item ij chalice of sylver parcel gylte xx ^{ti} . unces.
<i>Parochia de Trurowe.</i>	Item iij Bellys wayng — Item ij chalice wayng xix unces.

* A vessel of metal in the shape of a boat to hold incense, with a lid and spoon.

<i>Parochia de Mewan.</i>	Item iij Bellys wayng xxx ^c . Item iij chalices parcel gylte wayng viij unces.
<i>Parochia de Just.</i>	Item iij Bellys wayng m. iiijc. Item a crosse of sylver gylte clx unces. Item a chalyce of sylver gylte xij unces. Item another chalyce gylte xiiij unces. Item a chalice of sylver wayng viij unces. Item a pax of sylver wayng v unces.
<i>Parochia de Roche.</i>	Item iij Bellys wayng ——— Item a chalyce of sylver gylte xviiij unces. Item a chalyce of sylver parcel gylte xiiij unces.
<i>Parochia de Blasye.</i>	Item in the styple iij Bellys wayng ——— Item a chalyce of sylver wayng viij unces.
<i>Parochia de Cornely.</i>	Item ii Bellys wayng j ^c . di. Item one chalyce parcel gylte vij unces.
<i>Parochia de Clement.</i>	Item iij Bellys wayng j th . v ^c . l. Item ij chalice parcel gylte xxj unces.
<i>Parochia de Gorran.</i>	Item iiij Bellys wayng Item a crosse of sylver lxxxvij unces. Item a chalyce of sylver gylte xviiij unces. Item a chalyce of sylver xij unces.
<i>Parochia de Sampson.</i>	Item iij Bellys wayng ——— Item ij chalyce of sylver gylte viij unces. Item a crosse of sylver vj unces.
<i>Parochia de Lanlyuvry.</i>	Item iij Bellys wayng ——— Item iij chalyce of sylver parcel gylt xxiv unces. Item a pax of sylver parcel gylt iiij unces di.

*Hew Trevanyon.**John Carmynowe.**Thomas Treffry.*

Chalice	- lxviij.
Belles	cxv.
Crosses	viiij.
Sensors	v.
Paxes	iiij.
Shippes	i.

THE HUNDRED OF KERRIER.*

GLUVIAS.

March 12th, 1549.

Here followeth a true and hole inventorye of all Jewels vestments and implements belongyng to the churche of Gluvias the xij daye of Marche anno Edwardi Sexti tertio.

- It. a crosse of Sylver gyltid.
- It. ij. chalicis of Sylver the one giltid.
- It. a sencer of Sylver.
- It. a Cope and a hole sute of crymsyn velvett.
- It. a Cope and a hole sute of vestments of clothe of Botkyn.†
- It. a cope and a hole sute of vestments of white Damask.
- It. a payre of vestments of blake velvett.
- It. ij. payre of vestments of blew sylke.
- It. one old payre of white sylke.
- It. three bellis in the toure.
- It. ij. grete chaunlers‡ of laten.

John Reskynner—John Godolphin—John Killegrew.

Johés Denys. Vicari.

Will^m. Carvannel.

Johes Bowyar.

Richard Milhenock.

Nicholas Bage.

- It. More solde of the Jewels of the seid churche to the value of xx^{li}. for the Byldyng of a Markett house in the town‡ of Penryn the whiche xx^{li}. we have remaynyng in o^r. hands for the furnysshynge of the said byldyng un tyll the kyngs Magistys pleasure therein be knowen.

WYNWALLOW IN WYNNYTEN (GUNWALLOE.)

April 18th, 1549.

- Itm. a crosse of sylver gylt.
- Itm. ij. Chalyces Sylver.
- Itm. a coppe of blew velvett.
- Itm. a payre off vestments off sylke.

*The headings of the inventories in each case which are without interest are omitted. † Tissue or Cloth of Gold from Baldacca. ‡ Candlesticks.

Itm. a payre off vestments off satyn.

Itm. a stremer* off sylke and a baner† off sylke.

Itm. ij candell styckes.

Itm. iij bells.

John Reskynner. John Godolphin.

per. me Thoma Clyffe curat.

Thoma Pastan. { Wardens.

Mychell John. }

John Robert Constabell.

GERMOE.

April 19th, 1549.

Pmo ij Chalyses the one gylte and the othe pcell gylte.

Itm. j crosse of cop^r. gylte wth. a bann^o. of grene Tafta to the same.

Itm. ij Copes the one of blewe velvett and the other of blew damaske.

Itm. j payre of vestments of blew velvett wth. all that belongith to the same.

Itm. j payre of very course vestments & all wth. to them belongith.

Itm. j stremer of lynyn clothe wt. a redd crosse of saye made yn hit.

Itm. iij lyttill belles.

Itm. i pay^{re}. of Sensers of brasse.

And there was no thing solde wth yn xij months before the date of the comyssyon out of this pyshe nor yett before the

John Reskymmer.

John Godolphin.

Henry Nicholl.

John Powell.

John Newys.

John Somers.

SENT MARTYN YN MENECH.

22nd April, 1549.

Itm. a Challys of Sylver.

Itm. a Coppe and a pere of Vestyments.

*Streamers and†Banners, used in processions,

† Serge made entirely of wool,

Itm. a baner and a stremer.

Itm. iij belles.

John Moleswerth
p^{son.} of Mawgan.

Will^{m.} Edward.

Henry Aufell.

Henry Rolert.

John Hewge.

John Reskymmer.

John Godolphin.

SAYNTE CORENTYN (CURY.)

22nd April, 1549.

Itm. iij belles.

Itm. one sylver chalys.

Itm. ij Candell stykys.

Itm. one Coope of velvett.

Itm. one pere of vestmentts wheroff ys whytt satyn.

Itm. one crosse of lattyn.

Itm. one pyxe of sylver.

John Reskynner.

John Godolphin.

S. Herry. Curratt.

John Thomos.

Anthony Davy.

John Jamysson.

John Trebyswan.

BRECKE (BREAGE.)

23rd April, 1549.

Furste iij Chalesshes of sylver ij gyltyde and wone ongylt^{td}.

It. upon the awtttere* iij. towels of lynyn cloth.

It. wone pere of vestemenths of blewe velvath.

It. purple browderyded with gold worke.

It. More a pere of vestements of whyeth Sattyn.

It. More a pere of vestements of tawney velvath.

It. More another olde of vestements of sey.†

It. More wone cope of Morys. Velvatt purple broderyd in goldworke.

Itm. more another old cope of bleu velvatt.

* Altar.

† Serge made entirely of wool

- 1^t. upon the awttre ij chandlers of lattyn.
 1^t. upon the fonte a yerde of lenyn cloth.
 1^t. another olde rottyn stemer of sylke.
 1^t. hangyng yn the toure iiij belles of large burdyn.

John Reskynner. *John Godolphin.*
Thomas Tremaght.
Ayller Paskynhorne.
Thomas Tremern.
John Audhell.
Jelbert Trehuryon.
Jenkyn Andmers.
Udy Johan.

MELYAN (MULLION.)

22nd April, 1549.

- Itm. iiij Bellys.
 Itm. iiij Chalyces pascell gylte.
 Itm. i censer of sylver.
 Itm. ij grett candell stycks of brasse.
 Itm. a latyn crosse.
 Itm. a cope of velvett.
 Itm. iiij payre of vestments one of blewe velvett another of red sylke
 and the other of green.
 Itm. a stremer of grene sylke.
 Itm. a crosse bound of greene silke.

John Reskymer. *John Godolphin.*
Alexander Daw, Vycar.
John Chehergarne.
Wyl^m. Rawe.
John Treuthnon.
Pastan Polhorman. } *Wardens.*
Wil^m. Pryste.

WYVALALAL LANDISWENESKE (LANDEWEDNACK.)

15th Feb. to the 23rd April, 1549.

- In pmis too chalis of sylver.
 Itm. a coope of welvete blew welvett.
 Itm. a payer of bleu velvete westementes.
 Itm. a payer of blacke damaske.
 Itm. a crosse of lattyn. Itm. a Senar of lattyn.

Itm. too prickets* of latyn.
 Itm. iiij toweulls for awters.
 Itm. a serpell.†
 Itm. a payer of cruets of tynne.
 Itm. iiij belles.

John Reskynner. John Godolphin.

John Nycoll pson.

*Richard Robyll, Thomas Rycharde, Trystram John,
 Julian Jamys.*

ST. SYDNYNY juxta HELSTON (SITHNEY.)

April 23rd, 1549.

In primis ij Chalyces of Sylver a cope of Redd velvet foure pere
 of vestments one of them Blewe Satyn prett blanchyd the second
 pere Redd Satyn the therd Redd Satyn of broges‡ and the fourth
 yellow satyn broges.

It. too stremers of Grene Sylke and a bonell¶ of blew Sylke.

It. iiij belles yn the towre.

John Reskynner. John Godolphin.

CHAPELL OF SEINT MICHA'L IN THE BOROUGH TOWNE OF HELSTON IN
 THE PARISH OF St. WENDRON.

Apr. 23rd 1549.

Vestments.	| Itm. twoo sutes off vestements.
	| Itm. twoo Copyes.
	| Itm. another sute of vestements.
	| Itm. a paire of vestments.
Ornaments.	| Itm. twoo banners.
	| Itm. a clothe before the altarr.
Plate.	| Itm. ij Chalices.
	| Itm. one Senser.
Jewels.	None.
Bellys.	| Itm. three bellys hanging in the towre.
	| Itm. ij sacring bellys.

John Reskynner. John Godolphin. John Killegrew.

John Kenall Vicar of Wendren.

*Uryn paine } Wardens.
 raf philyp }*

* A Candlestick with a spike. † Surplice. ‡ Satin from Bruges. ¶ Banner.

SEINT WENDRON.

April 23rd, 1549.

Vestments.	Itm. one suite of vestments.
	Itm. thre pere of vestments.
	Itm. twoo Copys.
Ornaments.	None.
Plate.	Itm. iiij Chalyces.
Jewels.	None.
Bellys.	Itm. four bellys.
	Itm. one Sacring bell.

*John Reskynner. John Godolphin. John Killegrew.**John Kenall Vicar.*

John Robert
Thomas Carnebery } *Wardens.*

Henry Bodely, John Tremaine, John Bodeluya.

MAWNANE.

Vestments.	} iiij Pere of vestments and one coope of velvett.
Ornaments.	
Jewels.	
Plate.	ij Chalyces Sylver.
Bellys.	Itm. iiij Bellys and one sacring bell.

*p. me. Matheu Selake Rectore.**Johen penwarn.*

Will^m. Sonifter.
Johen Polgeft.
Lawrence John. }
Johen Leyn. , *Wardens of the seyde Pyshe.*

PYERAN ARWORTHALL.

*April 23rd, 1549.*In p^{mo}. one Chalyes of sylver.

Itm. a crosse of latyn gylt.

Itm. one pere of vestments of yellow sylke.

Itm. one coope of blew velvatt.

Itm. iiij bellys.

Itm. one sencer of latyn.

Itm. a crymetorye of ledde.

Itm. one pere of crewetts of tyn.

Itm. iiij Auter towellys.
 Itm. a pere of chandellers of latyn.
 Itm. one Stremer of blew Sylke.

*John Reskynner. John Killegrewe. John Godolphin.
 Thomas Edmund prest, John Rowlyn, Nycholl Stephyn,
 Olyn Peryn, Mathew Canerg.*

RUMON MAJOR.

April 23rd, 1549.

Vestments. Itm. iiij pere of vestements.
 Ornaments. None.
 Plate. Itm. ij Chalyces.
 Jewels. None.
 Bellys. } Itm. iiij bellys.
 } Itm. iiij sacring bellys.

*Rich^d. Tiake, Rector.
 John Robert, Constable.
 Robert Davy }
 Roger John } Wardens.*

RUMON MINOR.

Ap. 23rd, 1549.

Itm. a chalis of selver.
 Itm. iiij belles.
 Itm. a crosse of latyn or coper.
 Itm. a paxe of tynne.
 Itm. a senscer of coper.
 Itm. too cruettis of tynne.
 Itm. a pere of vestments of tawny sylke.
 Itm. a pere of vestments of Venis* sylke.
 Itm. a cope of satyn of bruges.
 Itm. iiiij touewlls for awters.
 Itm. a serpellles.
 Itm. a stremer of paynted cloth.
 Itm. a baner of the same.

*John Reskynner. John Godolphin.
 per Johⁿ. Fergew pson.
 Martyn John, John William.*

* Venice silk.

MAPE (MABE.)

Ap. 23rd, 1549.

Vestments.	iiij pere of vestments and one cope of velvet and another of satyn.
Ornaments.	ij Chandlers of latyn.
Jewels.	—
Playte.	ij Chalices of sylver.
Belles.	iiij belles, ij sacring belles.
	<i>John Reskynner. John Godolphin. John Killegrew.</i>
	<i>per me Dm^{us}. Richardus Anhu Curatt.</i>
	<i>p. me. Johnns Carvannel. } Edwarde Raue. } Wardyns.</i>
	<i>p. me. Jacobus Spergon. } David John. }</i>

(BUDOCKE.)

Ap. 24th, 1549.

Vestments.	Itm. iij peyre of Vestments and one Cope.
Ornaments.	ij Chandlers of latyn.
Jewels.	None.
Playte.	Itm. ij Chalyces and Cross of latyn.
Belles.	Itm. iij Belles ij Sacring belles.
	<i>John Chirmow Curat.</i>
	<i>Mathew Revryn. John Thomas. Symen Lamava. Rychard Penresse.</i>
	<i>Wardyns.</i>

APPENDIX 3

Coopes, Vestaments, Alterclothes, Chalyces, as followeth.

Copes iiij.	Efirst one Cope of grene Velvet and Clothe of Gold Worten uppon the Cape. pray for the sowle of John Bysshoppe.
	Itm. one other Cope of Crymson Velvet and clothe of golde caped and bordered about with grene velvett and clothe of golde.
	Itm. a nother cope like to the same of crymsyn velvet and clothe of golde bordered and caped w th grene velvet and clothe of golde.
	Itm. a nother Cope of Crymsyon Damaske and gold Caped and bordered w th grene velvet and Clothe of Golde.

- Vestaments**
ten.
- I^t one vestament of Crymsyn velvet and clothe of gold the resurrection on the bakke of the crosse.
 - I^t one other vestament of Crymsyn velvet and clothe of golde havynge on the crosse the picture of criste crucyfyed and wreten up the words vero filius dei erat iste.
 - I^t one other vestament of clothe of tissue grene and Redde velvet havinge on the crosse uppon his bakke Seynt James and uppon the breste Seynt Peter.
 - I^t one other vestament of the same clothe and sorte havynge uppon the crosse of the bakke the picture of criste and uppon the breste the picture of oure ladye.
 - I^t one other vestament of Crymsyn Damaske and golde havinge uppon the crosse of the bakke the passion of criste and uppon the breste Seynt James.
 - I^t a nother vestament of Grene branched* and spangled and bordered about wth crymsen velvet and golde and wreten uppon the crosse of the bakke Ave Maria grā plena.
 - I^t a nother of the same colour and sorte—and wreten uppon the crosse of the bakke Elias.
 - I^t one other vestment purpull velvet havynge on the crosse of the bakke the picture of criste nayled to the crosse.
 - I^t a nother vestament of blakke velvette wth. Droppes of Golde and having on the crosse of the bakke the picture of criste nayled to the crosse.
 - I^t a nother vestament of Rede satten abryges† and grene the worde Ihue wreten uppon the crosse of the bakke.
- Deacons** iij.
- I^m. one deacon's of crymsyn velvet and clothe of golde and uppon the breste an angell wth a sworde in his hande.
 - I^t. one other deacon's of crymsyn velvet and clothe of golde and uppon the nether pte before Seynt peter.
 - I^t. one other deacon's of the same sorte wth the picture of Seynt James and wreten the worde Jacob.
- Alterclothes**
vj.
- I^t. two clothes to hange before and above an alter of blakke velvett and Crymsyn satten wth the Images of o^r ladie the Roses and white lyons ymbroydered.
 - I^t. two other peces for an alter of white satten golde blew grene and redde velvette and thre panis‡ in eyther of theym of gold wth Images.
 - I^t. one other alter clothe of Blewe velvette wth Ires of golde E and L and havynge in the myddes a picture of our ladie and her sonne sette in a tabnacle of golde wth twoo other Images.
 - I^t. one other Alterclothe of crymsyn velvet wth the panes of clothe of golde imbroydred wth ye whyte Lyon.
 - I^t. one other Alterclothe of grene velvet wrought and wreten uppon the same Ecce homo.
 - I^t. two other Alterclothes of Russette white and yellowesatten.

* Embroidered with figures resembling leaves on branches.

† Satin of Bruges.

‡ Embroidered in small squares.

It^m. vij Abbes whereof thre of theym sutables to the beste suites
It. iij tunacles.

It. viij Stoles two of them clothe of golde.

It^m. vij sleve hangers thre of them of clothe of golde.

It. vj other small peres of dm'se sorte iij of them of clothe of golde.

Itm. one crosse of copper w^t a payer of cruettes.

Itm. thre bookes whereof one is an olde wreten prymer and ij
portasses of the psones of Borley.

Itm. a tabnacle w^t a Image wth the same having a crosse in the one
hand and a boke in the other.

It. a stayned clothe having in the same the picture of criste nayled
to the crosse w^t the pictures of Marie and John.

It. a littell paper paynted w^t the v wounds.

It. a stayned clothe pictured w^t Seynt Francis.

It. a white missale.

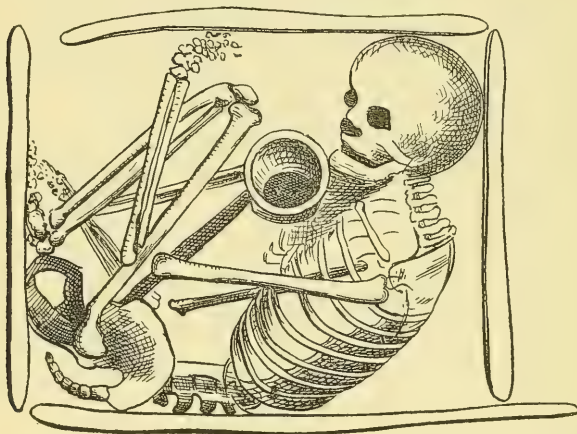
It. iiij or grett bokes of pchement of wreten hand in latten.

Itm. a litle bell gilt wth a handle of crymson silk and gowld.

PREHISTORIC INTERMENT RECENTLY FOUND AT TRETHIL IN SHEVIOCK.

By C. SPENCE BATE, F.R.S., *Honorary Member.*

The accompanying woodcut is intended to represent the form and appearance of a Kist-vean recently opened at Trethil, in the parish of SheviocK near St. Germans.



The farmer, who was employed with his men in putting up a barley-mow, found it necessary to prop it with a pole inserted into the ground; to do this with security, he ordered a hole to be dug. The men after driving for about three feet came upon a flat stone, which they removed. Upon taking it up, Mr. Hill, the farmer, told me that he thought it must have been an old drain, because when the cover was taken off there were several bars, like iron bars, right across; then they saw a skull in the corner, and then they perceived that it was the remains of a human body, doubled up, so that the arms were hugging up the knees. The men then with a shovel dug the entire mass out, but found nothing more.

Through the kindness of Miss Roberts, of Trethil, on whose property it exists, I was invited to examine the spot. It was at the top of a hill that overlooked the St. Germans river, and is now occupied by ricks of corn. The kist was formed by four side stones and a broad cover-stone. The bottom was formed by the soil of the country, but the side and cover stones must have been brought from some distance, inasmuch as they consisted of thick slabs of unwrought slate, such as, I learn, could not be found nearer than Whitsand Bay, a distance of about five miles.

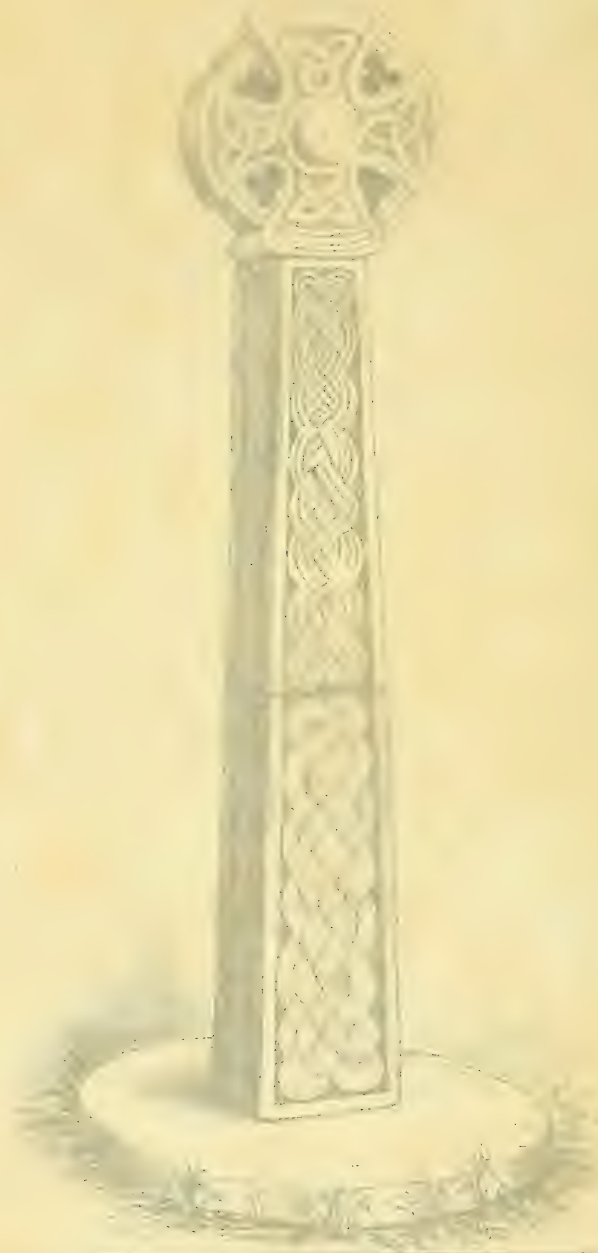
My first care, after examining the spot, was to measure the depth, width and length. I found it to be three feet three inches long, three feet broad, and two feet nine inches deep: and that it was about three feet beneath the surface of the soil. My next care was to have the contents of the kist passed through a sieve and carefully examined. I was in this way enabled to obtain several pieces of human bone and some fragments of coarse pottery. The bits of bone consisted of parts of the skull, teeth, some portions of the legs, arms, &c., but all in a soft and fragmentary condition. The pieces of pottery were thick and only in small bits, one or two of which when placed together enabled me to determine its diameter at the mouth, but of its depth I had no means by which to draw any conclusion. It was about four inches in diameter, and its surface was marked with lines that were impressed by some twisted cord, probably made of strips of bark, the ends of which overlapped each other. This small earthenware vase is, as far as I am aware, unique in the interments of this kind in Cornwall. Some few of a similar description have been found in the burials in Derbyshire, and are considered to be placed in the kists as food vessels for the requirements of the occupants when they arrive at the happy shore.

The skull was situated in the east or south-east, in the corner nearest towards the rising sun, and the knees were doubled up to the chin, the arms being thrown over the legs in a position approximating that in which it exists previous to birth. The food pot has generally been found between the knees and the chin.

There is no doubt, I believe, but that interments of this kind are of an earlier date than those that are found cremated, and those that contain the food pot are of the earliest of the former kind.

The Kist-vean is still kept open, and I believe that it is Miss Roberts' intention that it shall be retained in that condition as an object of interest.

Mr. Kerswill, of St. Germans, who saw it soon after it was opened, obtained several portions of bone; these he gave to me, and they are, with the pottery, to be placed in the Museum of the Plymouth Institution.



QUETHIOCK CROSS.

THE QUETHIOCK CROSS.

By N. HARE, *Corresponding Member.*

A few months since, whilst some workmen were engaged in excavating ground, preparatory to building a new boundary wall, at the southern part of Quethiock Churchyard, they came unexpectedly upon the head and base of a handsome granite cross. The two pieces were discovered just inside the old fence, and at some depth beneath the surface.

On making further search, the Rev. William Willimott, the Vicar, was fortunate enough to find the missing Shaft. The monolith had been divided into two parts, by hammering and then breaking it, and was doing duty as gate-posts, to what was then an unused entrance to the churchyard. This gateway is now built up. On putting the four pieces together, it was found that they fitted exactly into each other, and formed a perfect four-holed Greek cross.

After having been firmly cemented together, the restored cross, on the 25th July last, was re-erected south of the church porch, and on the spot where it was found, and is supposed originally to have stood.

The Cross, as shewn in the accompanying sketch, is a very good one, and as regards height is the finest in the county, being fourteen feet high; its base is nearly circular, and is four feet six inches in diameter; the head pierced with four trefoils, is some two feet less; the shaft is beaded the entire length, at each of its four corners, and is ten to eleven feet long. At the bottom it is twenty-two inches wide, and twelve inches deep. It is ornamented in front and at the back with trellis-work; the fracture occurs just where the pattern is varied, that is, the braiding of the lower half is broader than in the upper. The two sides or ends have a tracery of scroll work. The cross has a tenon fitting into a mortise in the top of the shaft, and the bottom of the shaft one which fits into the base, so that no part of the cross is wanting.

The head or cross bears a strong resemblance to the one in the Churchyard of St. Columb Major.*

Until now the highest cross in East Cornwall was, I believe, that in Lanivet† Churchyard, which Blight gives as ten feet six inches. He also gives another at St. Ives, in West Cornwall, of a similar height. The Quethiock Cross therefore stands nearly four feet higher than these.

In the parish it is known as "the Monument."

Our thanks are due to the Vicar of Quethiock for the care and attention he has given to the erection in his parish of this the latest, but by no means the least, addition to the number of our grand old Cornish Crosses.

* Blight's Crosses of East Cornwall, p. 30.

† Ibid., p. 28.

NOTICE OF A CINERARY URN FOUND IN A BARROW AT HUSTYN
IN ST. BREOCK, CORNWALL.

By REV. W. IAGO, B.A., *Hon. Local Sec. for Cornwall of the Society of Antiquaries, London ;
East Cornwall Corresponding Secretary, and Member of the Council of the Royal Institution
of Cornwall.*

Barrow-digging, whether undertaken for the sake of science, or simply for private amusement, is a tempting pursuit—being generally attended with very interesting discoveries. It should, however, be allowed only under special circumstances.

The wanton ransacking of the resting-place of the ancient dead, seems almost—if not quite—as unjustifiable as would be the similar desecration of a modern grave.

When, from early times, a Burial Mound has safely guarded the ashes of some chief, or the bodies of his family or followers, and no necessity exists for the removal of the tumulus, it should (according to my view of what is right) be left undisturbed and be jealously protected as a national monument.

The care with which our forefathers, in the dim past, treasured the remains of those dear to them, should be respected, both by the occupiers of the land, and also by antiquaries.

If such a feeling generally prevailed, many barrows now needlessly doomed to speedy ruin, would be left unmolested, so that they might preserve (through the present day and through future ages) the bones or ashes placed within them. This would surely be preferable to their being torn open and rifled to satisfy mere curiosity. Too often it happens that the contents of barrows are scattered to the winds, or the mutilated fragments are exposed to decay on Museum shelves.

But should such contingencies arise as that an explorer is bent upon opening some ancient tomb, or the owner of the land finds it essential to his interests that the ground should be cleared of the encumbrance, it at once becomes the duty of the antiquary to take note of the proceedings—or, better still, to obtain permission carefully to conduct the excavations.

It is much to be desired that when possessors of primeval relics purpose breaking into them, they would first give notice of their intention to those who are expert in such matters, lest some discovery be marred or pass unrecorded.

It often becomes necessary for farmers, in bringing land into cultivation, to clear away furze-grown cairns which may, or may not, be interesting as antiquities. Occasionally a Burial-place, being unrecognized, is disturbed unintentionally. In such a case no blame can reasonably be assigned. It was so at Hustyn recently. A fine urn containing burnt bones was accidentally found, and, unfortunately, its purpose not being perceived, it was broken by the finders, who afterwards regretted their haste and did their utmost to preserve the remains.

Hustyn,* commonly called Huss'n, is the present name of an ancient region, a great part of which is still untilled, lying in the parish of St. Breock in the north part of mid-Cornwall.

The tract of land so-named, is bounded on the south and east by Withiel Parish and the waters flowing from Ruthern Bridge along the valley, whilst a stream running into the river Allan, further north, and Bishop Wood on the north east, almost complete the outline.

Hustyn Mill, on the stream just mentioned, leads up through Hustyn Wood to Hustyn, a farm, on the south of which rises the hill crowned with Hustyn Barrow. This last overlooks Hustyn Downs and St. Breock Downs, westward, rich in ancient tumuli and stone remains.†

It is worth while to toil up the desolate hill, to Hustyn Barrow, to enjoy the view which stretches on all sides:—On the north (beyond Padstow, &c.) lies the open sea; eastward, Dartmoor in

*“Thersent,” in Domesday Book, is supposed to be the same as the manor of “Hustyn.” Hals calls the place “Hurst,” Hurst-town (Wood-town). H.M.W. in Dr. Bannister’s Glossary mentions “Hyston” (High Stone?). In Prebendary Williams’s *Cornu-Brit: Lexicon* is a verb “Ystye”—(to extend, stretch, or reach). The meaning of Hustyn has not been determined.

† There are many tumuli west of Hustyn and Tregavne Barrows. There are also the Pawton Cromlech (a burial-kist, formerly in a mound) known as “Giants’ Coit” or “Druids’ Altar,” and the Inscribed Stone of Uleagn, son of Severus; the Menhirs “Stone” and “Great Stone,” &c. See my illustrated account of these in “*Royal Inst. Cornwall Journal*, vol. IV, p. 70; Warner’s *Tour*, frontispiece; Mr. N. Whitley’s description, with plate, in “*Royal Inst. of Cornwall Report*” for 1810, p. 30; and Mr. Borlase’s in his “*Nænia Cornubiæ*,” pp. 32, 79.

Devon; westward, Carn-Brea. (The two last mentioned places being 60 miles apart.) There are also seen, far away but less remote, Roughton and Brown-Willy, Cadon Barrow near Tintagel, the China Clay pits near St. Austell, Hensbarrow, St. Agnes Beacon, &c.; besides Egloshayle and much of the Bodmin district close at hand. All the highest hills in the county are visible, some fine old Menhirs, a great number of churches, &c. †

The great Barrow of Hustyn, commanding this extensive prospect, appears to rise about 20 feet above the hill on which it stands. A large pit has been dug down into it (by some young gentlemen, as I was informed, when they resided near it). It is said that the diggers failed to make a "find." The opening shews that much of the mound is a cairn of quartz or spar stones. The burial below may be still intact.

Another Barrow, smaller but also circular, is very near it, eastward, but so low in form that it presents a totally different appearance. It is smooth and green, and has a shallow central depression. The ground about these tumuli is wild and exposed.

Nearly half a mile lower down, on the side of the hill, not far from the buildings of Hustyn Farm, and within sight of Tregoose, is an enclosure under cultivation. At the upper inner corner of it was a flattened mound, or denuded Barrow, containing the urn which is the subject of this paper. The finding of it was brought to my notice by Mr. Tellam of Bodmin, who heard of it from Mr. Hocking, agent of Mr. Brune, of Prideaux Place, Padstow, the landowner. The urn was discovered on or about the 1st of June, 1881, I was informed of it on the 17th day of the same month, and immediately proceeded to the spot. Mr. Tellam subsequently visited the place, and I examined it again on the 2nd of July. We obtained possession of the chief pieces, dug up others, and gleaned the following particulars:—

The land is farmed by Mr. Thomas, of Hustyn Mill. "On Bodmin Whitsun Fair-day," I was told, Mr. Henry Thomas, son of the

† The extent of the views from the Cornish hills may be gathered from Wallis's graphic descriptions in his "Cornwall Register," pp. 176—194. He mentions that, by the aid of telescopes, soldiers were seen on the sands of the Scilly Isles, from the Land's End, 25 miles across the sea. Also that from Brown Willy (Cornwall's highest peak) a light was visible on a hill beyond Swansea, in Wales, 70 miles away.

millar, was engaged with a labourer levelling the mound. Its sepulchral character was not suspected. There was not a very large quantity of earth to be removed, but stones, many of them of a sparry nature, were numerous. These varied in size from such as are commonly used in hedging, perhaps about 6 inches in diameter, to larger ones 2 or 3 feet long. They formed a cairn which rose about 3 or 4 feet above the surface of the field.

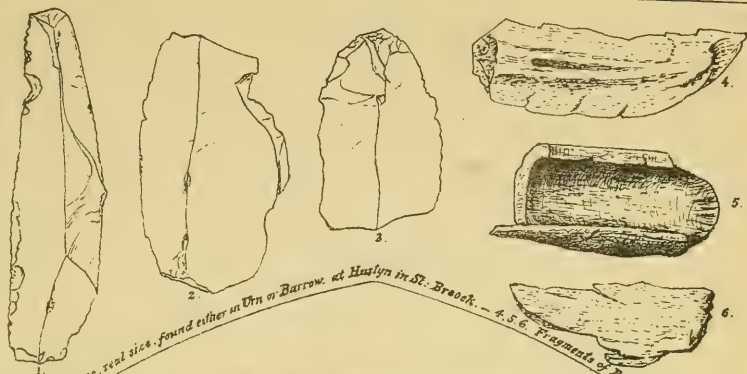
The Barrow, containing the cairn, was nearly circular, and, at the time of my visit, measured from 35 to 41 feet in diameter. Its mode of construction was not then very apparent, but from what I could learn, stones had been placed at its circumference, and a stony circle was formed at some distance further in. Near the centre the stones had been built together, for about a foot in thickness, so as to enclose a space which was filled with soft fine earth, almost as black as soot. In this was embedded at a depth of about two feet from the top of the mound, a large earthen pot or urn, mouth upward, standing on a stone at about the middle of the Barrow. The black earth completely surrounded the vessel (as closely as if it had been trodden or "tamped" in), and filled its mouth. The stone seemed to rest on the natural soil.

The discoverers being surprised at what they beheld, did not pause to reflect. A shovel was inserted, the urn was lifted, carried to the edge of the mound, and broken on the ground. A quantity of fibrous roots was found within,—binding together in a compact mass, calcined bones.

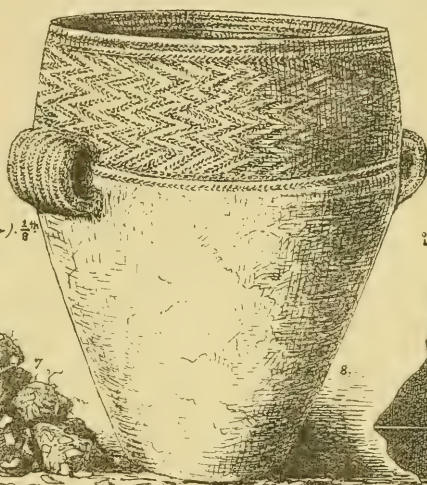
The interment had not been previously disturbed, but the urn must have been somewhat crushed, or had become slightly cracked, where it stood—either by the downward pressure of the earth upon it, or through the expansion of roots within it,—for notwithstanding that it was lifted as if all in one piece, roots are still adhering to some portions of the bottom in such positions as indicate penetration through an old fracture. The bones, which are broken into small fragments, are hard and very white. They seem to be parts of an adult human skeleton.

I carefully examined some of the conglomerate, breaking it up in water and freeing the bone particles from the fibrous roots in the hope of discovering, in the deposit, beads or flints—but in vain.

From the mound, however, 3 pieces of flint were obtained, also a sherd of pottery harder than the urn. Whether any of the flints

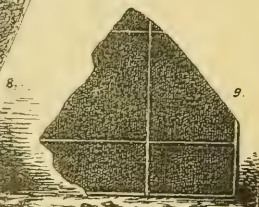


1, 2, 3. Flint-slakes, real size, found either in Urn or Barrow, at Hustyn in St. Breock. - 4, 5, 6. Fragments of Burnt Human Bones, real size.



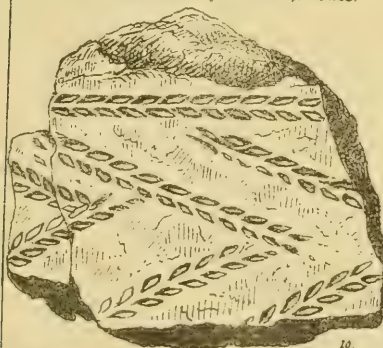
(Scale of 7 & 9. opposite →). $\frac{1}{8}$ in.

3 1 2 3 4 5 6 Inc.



7. Part of Urn's Contents (matted roots, burnt bones). 8. Urn's probable Form. 9. A Stone from Cairn (rectangular quartz veins).

10. Urn Pottery fragment shewing Ornament, real size.



11. Map of locality. Approximate position of Urn shown at L.



had been in the urn is not known. One of them, like the tip of a leaf, I found on the spot where the urn had been broken. They may have been used for kindling fire at the time of the cremation of the body. In form they are flakes of the type known as knives or scrapers. Their edges show no secondary chipping. They have been broken across, and measure about 1, $1\frac{1}{2}$, and 2 inches in length respectively. They strikingly resemble some* found in Mullion, the Scilly Isles, &c.

The structure of the Barrow, as already stated, was destroyed before I saw it; but, on causing its remains to be dug over, I noticed in the central part—under the stones and the fine black earth—blue clay, and lower still yellow clay. The latter underlying the natural surface of the soil. I observed that great numbers of stones had been collected in ridges upon the hill, and in the field, to clear the ground. Many others, with the stones from this barrow, had been cast into a dyke or gully, close by, made perhaps to drain the land, and locally termed a “goffen.”

The Urn itself must now be described.

In plate A, I have endeavoured to shew its probable form. It seems to have nearly resembled the largest Cornish Urns yet discovered:—viz. those found by Mr. Borlase at Boscregan and Tregaseal, in St. Just (near Cape Cornwall and not far from the Land's End). It is also much like those found at Clahar Garden, in Mullion.

The “Hustyn Urn” as I must, for distinction, call the one I am describing, has been smashed into countless pieces, quite beyond restoration. From what the finders state, and judging by its fragments, it stood about twenty inches in height. In form it tapered inward both towards the bottom and towards the mouth. The bottom is flat and circular, 6 inches in diameter and $\frac{3}{4}$ in. thick. The sides are only half as thick, but towards the brim the pottery is again found to be more substantial. Two hollow handles (as large as those on the Boscregan Urn) were fixed just below the bulge. Each measures 3 inches in length and height, $1\frac{1}{2}$ in. in projection, and was formed of clay, $\frac{1}{2}$ -in. thick.

* W. C. Borlase's *Nænia Cornub*: pp. 161, 226. Jewitt's *Grave Mounds* p. 121, &c.

Ornamental lines are impressed on these handles, and around that portion of the urn which rises above the bulge and them. The lines were made by applying plaited grass or rush to the clay whilst it was soft. The handles are striped perpendicularly with parallel lines, and the upper part of the urn is encircled with horizontal lines, between which are a great number of chevrons or acute zig-zags, arranged with their points directed sideways—some of them being made to blend or conjoin. Zigzags or chevrons placed as described* occur on urns, &c. found in many places far distant from each other. Examples very much resembling the Hustyn device, are met with in Ireland.

The Pottery is rather coarse and soft—the upper portions being especially liable to crumble. The lower part was probably hardened to some additional extent, by receiving the ashes and bones whilst they were yet hot from the funeral fire. In color, the upper portion is of a yellowish-drab, more or less dull, containing red particles; the lower, of a light reddish brown, without, and black within:—each of these tints meeting the other in the thickness of the material near the outer surface. The bottom of the urn is of a pale dull yellowish stone color.

I observed slight traces of the pressure of fingers on the clay, just within those parts to which the handles are attached. Such marks, occurring during manufacture, have been noticed by Jewitt, who has written† as follows concerning urns found in Barrows:—

“I apprehend from careful examination that the urn being formed of the coarse common clay of the district,—most probably (judging from the delicacy of touch, and from the impress of fingers which occasionally remains) by the females of the tribes,—and ornamented, was placed in the funeral fire and there baked while the body of the deceased was being consumed. The remains of the calcined bones, flints, &c., were then placed in the urn, over which the mound was next raised. Many of the urns bear evidence of having been filled with the burnt bones and ashes of the deceased while those ashes were of a glowing and intense heat.” . . . “Those urns

* *Næmia* pp. 168, 174, 187, 207, 223, 231, 234, 246. *Grave Mounds*, pp. 89, 94, 95, 98, 99, 103. *Journal of Royal Hist. and Archaeolog. Association of Ireland*, Vol. II, part 2, p. 311, &c.

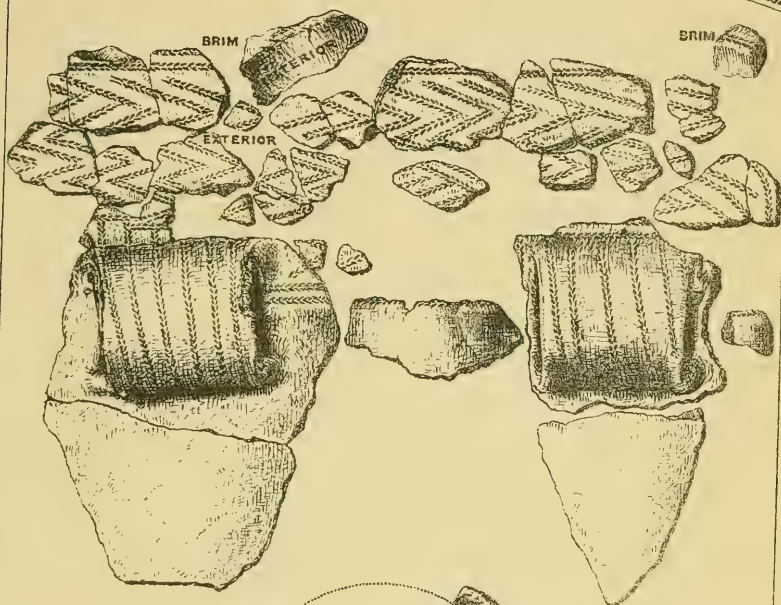
† *Grave Mounds and their Contents*, pp 83, 4, 5.



Odd fragment of harder pottery. (plain).

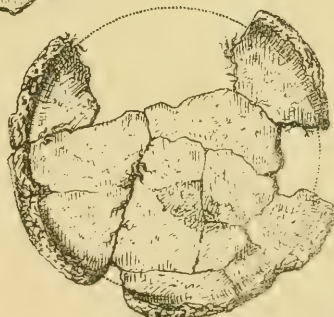


Remains of Burrow. June. 1891.



Fragments

of the Urn.



BASE.



Inches

0 1 2 3 4 5 6 7 8 9 10 11 12

which are supposed to be the most ancient (from their containing flint implements along with the calcined bones), are of large size, ranging from about 9 to 18 inches in height."

These general remarks suit the case before us, but the largest Cornish urns are from 19 to 22 inches in height.

In concluding this paper, I would thank the Messrs. Thomas for the full information they afforded,—for their exertions in finding and conveying to me as many of the fragments as possible, as soon as they knew that they were worth preserving,—for their acquiescing so readily in the proposal that I should place the discovered relics in the Royal Institution Museum at Truro,—and for facilitating subsequent examinations, by which more of the remains were brought to light. Mr. Wm. Elford, of Bodmin, also helped me to explore the mound.

To Mr. Tellam I am likewise much indebted, in that he has pointed out an error in the Ordnance Inch-Mile Map—Hustyn Down being therein marked too far to the south-west. He states that below Hustyn Barrow, on the west, was a circular earthwork, now removed, and there are several Barrows (besides those marked) towards the "Stone." He searched for, and found in the Barrow, from which the urn was taken, much that supplied deficiencies. He noted that the stones forming the outer enclosing circle were on their edges, not actually at the circumference, but slightly within the mound, and were but partially exposed where earth had been removed. He helped to dig out the stony circle around the central space. It formed a loosely built wall. His quick perception, moreover, decided to a great extent the positions belonging to most of the pieces, and what must have been the original form of this shattered urn,—unearthed so lately at Hustyn Farm, after having (with its human contents) lain buried and forgotten for perhaps 2,000 years.

NOTE ON THE DEDICATION OF LANTEGLOS CHURCH,
NEAR FOWEY.

By E. H. W. DUNKIN, *Corresponding Member.*

The dedication of Lanteglos church near Fowey, appears to have been unknown to Dr. Oliver when he compiled his list of Dedications of Cornish Churches, appended to his *Monasticon Diocesis Exoniensis*, pp. 437-443, and Addit. Supplement p. 37. Neither is it mentioned in any History of Cornwall, and I am not aware that Mr. Borlase referred to it in his admirable address delivered before the Institution at their Spring Meeting in 1878. The following brief remarks may therefore have some interest.

The earliest authority is a contemporary record dated 1284. This is an Assize Roll of the 12th year of Edw. I., in which are recorded some pleas referring to a messuage and half an acre of land in "Lanteglos in Westweleshyr," given to the church of S. Wylley at Lanteglos (*ad ecclesiam sancti Wylley de Lanteglos.*)* The next authority is the will of Lawrence Cok, dated 12 Oct., 1502, in which he desires to be buried within the church of S. Willei at Lanteglos (*infra ecclesiam sancti Willei de Lanteglos.*)† Again John Mohun, who was buried in Lanteglos church, and has a brass there, by his will dated 20 Apr. 1507, made the following bequest—"It' lego pro decimis mei oblitis stauro sancti Willei xx^s." ‡

According to William of Worcester, who made a journey from Bristol to S. Michael's Mount in 1478, S. Wyllow was a native of Ireland, and was beheaded by Melyn his kinsman, in the parish of Lanteglos, one mile from the town of Fowey, and after his decapitation ran to the place where the church was afterwards founded in his honour.

All these authorities either shew or imply that the church of Lanteglos is under the tutelage of S. Wyllow.

* Assize Roll, Cornwall $\frac{M}{1}$ | 3, m. 12 dors.
20

† P.C.C. 11 Blamyr.

‡ P.C.C. 6 Bennett.

A CATALOGUE OF ADDITIONS TO, AND ALTERATIONS IN
THAT OF THE ZOOPHYTES OF CORNWALL, BY THE LATE
R. Q. COUCH, Esq.

(Published in Part III, 1844, of the Transactions of the Royal Institution of Cornwall.)

By C. W. PEACH, A.L.S.

In compliance with the request of the committee of your Society, I have endeavoured to make the additions and alterations required to bring my late valued friend's work into harmony with the Zoophyte lore of the present day. Great discoveries of Genera and Species have been made by the host of collectors since it was published in 1844, and beautiful illustrated works have been published. First, by the late Dr. Johnston, in two volumes, which are still valuable for reference. Professor Busk's admirable description of the Polyzoa in the British Museum farther advanced our knowledge of the Polyzoa. To the Rev. T. Hincks we are indebted for a book of two volumes "On the British Hydroid Zoophytes," and in the present year two more volumes by the same author on "British Marine Polyzoa," splendidly illustrated, have been published by Van Voorst. It is needless to say that they are well got up, and have brought us up to the true state of the knowledge of both kingdoms of Hydroids and Polyzoa. Many other very useful books and papers have been written also. I must, however, rest contented with noting one more work, Gosse's "History of British Sea-Anemones and Corals," with coloured figures of all the species known in 1860. Of this work it is sufficient to say it is a most useful and valuable one. I must, however, mention that Mr. Hincks published in the "Magazine of Natural History," 1861-1862, "A Catalogue of the Zoophytes of South Devon and South Cornwall." In these works each author has made great changes in the names and classification, the greatest, however, especially in the Polyzoa, published by Mr. Hincks in March last. From all sources in my possession, commencing with Ellis's "History of the Corallines," published 1755, I have endeavoured to bring the history of our Cornish Zoophytes, above-mentioned, into harmony with our knowledge of them at the

present time. I make no pretence to scientific training, being only a practical naturalist. I may mention that Hinck's Catalogue was drawn from "South Devon and South Cornwall," the present one *from Cornwall only*, and we have not such chances as Mr. Hincks had of gaining rich stores from the Brixham, &c., trawlers; under these circumstances it ought not to be expected that the Cornish list can be such a long and valuable one, especially in deep water forms; however, we have not been altogether idle, and I hope we shall not be accused

———"Of dropping buckets into empty wells,
And growing old in drawing nothing up."

It has been to me a difficult task, and should I live a little longer, with the new life put into natural history research of the large army of young, well-educated collectors, very many more species and genera of our loved ones will be added to our lists, and further additions or new lists must be again made out. The number of species noted in my present list is, viz.—

Hydrozoa	29
Actinuzoa	29
Polyzoa	95
Madreporia.. .. .	4
	— 157
Of these, 90 are additions to, and alterations in Couch's list	90
	—
Leaving in the old list	67.

On examination of the list it will be seen that some of the additions are extremely rare, and two of them at present have been found in Cornwall only, one of these being unique. These rare ones have also been found in Pliocene strata, thus showing a great range in time.

In addition to the number of species in the foregoing table, fifteen species of "Naked-Eyed Medusa" of Forbes have been found on the Cornish coast; these I have not inserted in it, from not being able to give their right parentage, and have thus used only the names given to them by Forbes (see page 157 of this paper) in his Monograph, published by the Ray Society in 1848.

As my late valued friend Dr. Couch mentions *Caryophyllia* in

his list, and Gosse in his work describes it and others as Corals, I have noticed them on the authority of Professor Martin Duncan under the head of *Madreporia* (see his paper in the "Transactions of the Zoological Society of London," part v. vol. viii, 1873).

Accept my apologies for inflicting so long a story on you: my only excuse is anxiety to make my paper as useful as I possibly can. One thing more, it would have been easier to re-write the whole than to dovetail the new into the old list in the "Cornish Fauna."

CLASS I.—HYDROZOA.—*Huxley*.

Sub-order I.—ATHECATA. *Family I.*—CLAVIDÆ.

Genus, CLAVA.—*Gmelin*.

1—CLAVA MULTICORNIS.—*Forskal*, plate 1, fig. 1, page 2. *Hincks's Brit. Hydro. Zoo.*

CORYNE SQUAMATA.—*Couch*, Corn. Fauna, pa. 11, plate 1, fig. 2.

Generally distributed; abundant in Devon and Cornwall, (T.H.) Gorran Haven, Fowey, &c., (C.W.P.)

Genus, CORYNE.—*Gaertner*.

1—CORYNE FRUTICOSA.—*Hincks*, Brit. Hydro. Zoo., plate 7, fig. 2, p. 44.

* On *Fucus*, Mounts Bay. (T.H.) Off Gorran Haven, &c. (C.W.P.)

2—CORYNE VAGINATA.—*Hincks*, Brit. Hydro., plate 7, fig. 1, p. 41.

? HERMIA GLANDULOSA of *Hassall*, Ann. Nat. His. for 1841, 283, plate 6, fig. 2. *Couch*, p. 12, Corn. Fauna.

Common on the Cornish Coast. (C.W.P.)

Genus, MYRIOTHELA.—*Sars*.

1—MYRIOTHELA PHRYGIA.—*Fabricus*. *Hincks*, Brit. Hydro. Zoo., p. 77, plate 12., fig. 3.

ARUM COCKSII.—*Vigurs*. Rep. Polytech. Soc. Corn., 1849.

* Under stones; at extreme low water Gwyllyn Vase, near Falmouth. (Cocks.) Torquay, on stone, (T.H.)

Genus, EUDENDRIUM.—*Ehrenberg* (in part).

1—EUDENDRIUM CAPILLARE.—*Alder*. *Hincks*, Brit. Hy. Zoo., plate 14, fig. 2, p. 84.

On other Zoophytes, and sea weed.

* Not uncommon, Polperro, Cornwall. (T.H.)

Genus, TUBULARIA.—*Linnæus* (in part).

1—TUBULARIA CORONATA.—*Abildgaard*. **Hincks*, Brit. Hy. Zoo., plate 24, fig. 2, p. 119.

TUBULARIA GRACILIS.—*Johnston*. B.Z. (2nd ed.) 52, plate 4, figs. 3, 5.

Fowey harbour, rare. (C.W.P.)

Genus, CORYMORPHA.—*Sars* (in part).

CORYMORPHA NUTANS.—*Sars*. *Hincks*, Brit. Hy. Zoo., plate 22, fig. 2.

Got by J.A. and C.W.P. in Fowey Harbour, a single specimen. Two were afterwards obtained from the same spot (Lew roads) by C.W.P.

* See page 323 of "British Hydroid Zoophytes," "that Mr. Alder regarded the above species latterly as distinct from *C. metans* . . . and thought it might be *C. Sarsin*, of *Steenstrup*." It is a pretty and curious species and worthy of close study.

Genus, SERTULARELLA.—*Gray*.

1—SERTULARELLA GAYI.—*Lamouroux*. *Hincks*, Brit. Hy. Zoo., plate 46, fig. 2, p. 237.

Sertularia polyzonias var. *B. Johnston*, B.Z. 61, plate 10, fig. 2.

* Off the Deadman (T.H.) Gorran Haven, from the fishers' lines, &c. (C.W.P.)

2—SERTULARELLA TENELLA.—*Alder*. *Hincks*, Brit. Hyd. Zoo., p. 242, plate 47, fig. 3.

* Off the Deadman from fishers' lines, rare. (C.W.P.) On other Zoophytes and Algæ, Shetland, &c. (C.W.P.)

Genus, OBELIA.—*Péron and Lesuer*.

1—OBELIA LONGISSIMA.—*Pallas*. *Hincks*, Brit. Hydro. Zoo., p. 154, pl. 27.

* Rather deep water, common, Looe, Polperro, Gorran, &c. (C.W.P.)

Genus, CLYTIA.—*Lamouroux* (in part)

1—CLYTIA JOHNSTONI.—*Alder*. *Hincks*, Brit. Hydro. Zoo., p. 143, plate 24, fig. 1.

CAMPANULARIA VOLUBILIS of *Couch*, Corn. Faun., p. 3, 40, t. 11, fig. 1.

Generally distributed, attaching itself to seaweeds and zoophytes in abundance. At all times a most beautiful object when living, under the microscope. The Gonozooids much more so; it sends forth swarms of them.

Most abundant on the Cornish coast. (C.W.P.)

Genus, CAMPANULARIA.—*Lamarck* (in part).

1—CAMPANULARIA FLEXUOSA.—*Hincks*, Brit. Hydro. Zoo., p. 168, plate 33.

LAOMEDEA GELATINOSA.—*Couch*, Corn. Faun., plate 10, fig. 2.

Confined to the littoral region, and extremely common on all parts of our coast, from Cornwall, (R. Q.C.) to Shetland, (C.W.P.)

2—CAMPANULARIA NEGLECTA.—*Alder*.

* A minute species. On the underside of stones between tide marks, and other zoophytes, &c. From inshore to the coralline region, common. (T.H.)

3—CAMPANULARIA RARIDENTATA.—*Alder*. *Hincks*, Brit. Hydro. Zoo., plate xxvi, fig. 2, p. 178.

* A minute species, from Cullereats. (J.A.) From the Brixham trawl refuse, not uncommon. (T.H.) Gorran Haven (C.W.P.)

Genus, OPERCULARELLA.—*Hincks*.

* 1—O. LACERATA.—*Johnston*. B.Z., plate 18, fig. 3. *Hincks*, Brit. Hy. Zoo., p. 194, plate 39, fig. 1.

Between tide marks, St. Ives, Cornwall, not uncommon. (T.H.)

Genus, CALYCELLA.—*Hincks* (in part).

1—CALYCELLA FASTIGIATA.—*Alder*. *Hincks*, Brit. Hy. Zoo., plate 39, fig. 3, p. 208, woodcut fig. 25.

Alder has pointed out the resemblance of the remarkable

operculum, with which this species is furnished, "to the roof of a house, the two opposite angles forming the gables."

* From Shetland and the Hebrides. (A.M.N.) On *Plumularia tubulifera* from Cornwall. (T.H.)

Genus, FILELLUM.—*Hincks*.

* 1—FILELLUM SERPENS.—*Hassall*. *Hincks*, Brit. Hydro. Zoo., p. 214, plate 41, fig. 4.

Parasitical on some of the large *Sertularidæ*, especially *Sertularia abietina*.

Very common, Gorran Haven and other parts of Cornwall. (C.W.P.) In 100 fathoms off Rekiavick, Iceland. (T.H.)

* Genus, COPPINIA.—*Hassall*.

1—COPPINIA ARCTA.—*Dalzell*. *Hincks*, Brit. Hy. Zoo., p. 219, plate 41, fig. 5.

On *Sertularia abietina* and *Hydrallmannia* and other zoophytes, widely distributed. Gorran Haven, &c. (C.W.P.)

Genus, HALECIUM.—*Oken*.

* 1—HALECIUM BEANII.—*Johnston*. *Hincks*, Brit. Hydro. Zoo., p. 221, plate xlv, fig. 3 and xliii, fig. 2, 2a.

A delicate and pretty species, it is widely spread. Rather rare; from Fowey harbour, and off the Deadman in deepish water. (C.W.P.)

Genus, DIPHASIA.—*Agassiz*.

1—DIPHASIA ROSACEA.—*Linn*. *Hincks*, Brit. Hy. Zoo., p. 245, plate xlviii, fig. 1.

SERTULARIA ROSACEA.—*Couch*, Corn. Faun. 3, p. 18.

On *Piuna ingens*, from deep water off the Deadman. (C.W.P.) Rather rare.

2—DIPHASIA ATTENUÆATA.—*Hincks*, Brit. Hy. Zoo., p. 247, plate 11, 9, fig. 1.

SERTULARIA ROSACEA.—*Ellis*. *Couch*, Corn. Faun., p. 18.

An exceedingly pretty species. It occurred to me at Gorran Haven, Cornwall, and Peterhead, Aberdeenshire. (C.W.P.)

Genus, SERTULARIA.—*Linnæus* (in part).

1—SERTULARIA GRACILIS.—*Hassall. Hincks*, Brit. Hy. Zoo., p. 262, plate 52, figs. 2, 2a. *Peach*, Rep. Roy. Inst. of Corn., 1877, p. 276.

* Off the Deadman, rare. Norfolk, Var. B. of *Johnston*, B.Z., p. 67; delicate Var. of *S. pumila*. (C.W.P.)

Genus, HYDRALLMANIA.—*Hincks*.

1—HYDRALLMANIA FALCATA.—*Linnæus. Hincks*, B. H. Zoo., plate 58, p. 273.

PLUMULARIA FALCATA.—Corn. Faun., p. 30, *Couch*.

Abundant everywhere. (C.W.P.)

Genus, AGLAOPHENIA.—*Lamouroux* (in part).

1—AGLAOPHENIA TUBULIFERA.—*Hincks*. Brit. Hy. Zoo., p. 288, plate 63, fig. 2.

PLUMULARIA CRISTATA, var. *Couch*, Corn. Faun., 32.

On the legs of *Hyas coarctatus* in 1845, from off the Deadman. (C.W.P.) It is a good and well-marked species. Rather rare.

Genus, PLUMULARIA.—*Lamarck* (in part).

1—PLUMULARIA SETACEA.—*Ellis. Hincks*, Brit. Hy. Zoo., p. 296, plate 66, fig. 1.

I notice this species—although *Couch* has it in his Cornish Fauna, p. 33—to mention the splendid masses of the “*branched variety*” I got in Fowey harbour in 1845, from sunken timber. They were four inches high. (C.W.P.)

2—PLUMULARIA PINNATA.—*Linnæus*.

I also notice this, although plentiful in Cornwall, (*Couch* in his Corn. Faun., p. 34, gives a good account of it) to mention that of this too I got splendid specimens, “*with branches*,” brought up by the fishermen’s lines off the Firth of Forth in 30 fathoms. It was five inches high, and with ovarian vesicles. I hope this will be excused, as the fact of its *being “branched”* I cannot find mentioned in any work I have on Zoophytes. (C.W.P.)

3—PLUMULARIA ECHINULATA.—*Lamarck*, plate 65, fig. 2, p. 302, *Hincks*, Hydro. Zoo.

* This interesting species is rather rare in Fowey harbour; I published the discovery of it in the Trans. of the Roy. In. of Corn., p. 56 to 59, plate 2, 1848. It is not uncommon in many places in shallow water, especially on *Zostera marina* and *Chorda filum*. (C.W.P.) Southampton. (C.W.P.)

4—*PLUMULARIA SILIQUOSA*.—*Hincks*. Mag. Nat. His., vol. 19, 110, 1877, plate 12.

From Guernsey, supplied by Mr. R. S. Cooper. (T.H.) This new species I got off the Deadman in 1843 and 1844, two or three times; it was considered by Johnston "as a single-stemmed variety of *Plumularia Catharina*." I have it also from Peterhead and Wick, N.B. It is a nice addition to the Cornish list, and is fully described in a paper I published in the Trans. Roy. Soc. of Cornwall, 1877, pp. 376-379, figs. 1, 1a. It is rare. (C.W.P.)

* 5—*PLUMULARIA OBLIQUA*.—*Saunders*, pl. 67, fig. 1.

—————*Saunders*, Ann. Nat. His. (3rd. ser.) 8, 258; and *Hincks* at p. 304 of Brit. Hy. Zoo., says common in some parts on weed, &c., near low water mark "in the South-Eastern district," and quotes Couch as having found it in Cornwall. (R.Q.C.)

NAKED-EYED MEDUSÆ.

Order.—*THECAPORA*.—*Hincks*.

I must plead, as the Rev. A. M. Norman did in his Report of the Shetland Dredging to the British Association in 1868, that "our knowledge" is so imperfect about these beautiful objects that it is "better to keep them together here, leaving future discovery to assign them their respective places." I have, however, given a list of those found by Forbes and myself on the Cornish coast, and as well added some observations of mine on two species I had the pleasure of seeing sent forth by their parents when I resided in Cornwall, and of the rearing and seeing the changes in the young of another in Scotland. I regret that the information is so imperfect and so small.

Found in Cornwall *free*, by Professor Forbes and C.W. Peach:—

Forbes's 'Medusa' Plate in.	Name.	Locality.
I. fig. 1.	*† <i>Willsia stellata</i> Müller.	Penzance bay, plentiful. Cornwall.
II. fig. 4.	*† <i>Saphenia dinema</i> Péron.	Mounts Bay.
VI. fig. 1.	* <i>Slabberia halterata</i> Forbes.	Penzance Bay.
VI. fig. 3.	*† <i>Sarsia prolifera</i> Forbes.	Lizard Point.
X. fig. 2.	*† <i>Thaumantias lucifera</i> Forbes.	Penzance Bay.
XIII. fig. 2.	* <i>Steenstrupia flaveola</i>	See Report of the Royal Institution of Cornwall, 1849, p. 48.
VIII. fig. 4.	† <i>Thaumantias octona</i> Forbes.	
VII. fig. 3.	† <i>Thaumantias inconspicua</i> Forbes.	
XII. fig. 4.	† <i>Lizzia blondina</i> Forbes.	
XII. fig. 3.	† <i>Lizzia octopunctata</i> Sars.	
XIII. fig. 1.	† <i>Steenstrupia rubra</i> Forbes.	
XII. fig. 2.	† <i>Bougainvillia nigritella</i> Forbes.	

OBSERVATIONS.

When observation made,	What observed and by whom. <i>C. W. Peach.</i>	Where described, &c.
1849 at Fowey Cornwall.	The Embryo of <i>Tubularia indivisa</i> shortly after exclusion. Cornwall.	Report of the Roy. In. of Corn., p. 47. pl. 11, fig. 4, 5.
19th Feb. at Gorran Haven, Cornwall, 1842.	The Gonozooids of <i>Obelia dichotoma</i> kept by me in a glass in my house, where I saw them leave it in swarms. Cornwall.	Johnston's Brit. Zoo., Ed. 2, p. 119, fig. 25.
Gorran Haven, 2nd March, 1842.	The Gonozooids of <i>Campanularia volubilis</i> , kept as the above, left also in swarms. Cornwall.	

Order—ALCYONARIA.—*Milne Edwards.*

1—GORGONIA PLACOMUS.—*Ellis and Solander.* Zooph., p. 86, See *Johnston's*, Brit. Zoo., p. 168, 2nd ed., plate 32, fig. 2.

Coast of Cornwall.—*Ellis.*

Unfortunately this *Gorgonia* has never been found again, and thus doubts are entertained about its being British.

2—ALCYONIUM SANGUINEUM.—*Couch.*

It may be the *A. glomeratum* of *Hassall*, as I know not where to refer for information about this one. I can give no opinion, beyond that the Rev. A. M. Norman got "an orange *Alcyonium* from a cave at Hillswick, Shetland, which seemed referable to this." (*Hassall.*) See "Last Report of Dredging among the Shetland Islands," in the Report of the British Association for the advancement of Science for 1808, p. 320.

* Found by Forbes. † By Peach. When both marks are used both have found them.

In addition to the one got by Mr. Couch I got two more, one off Gorran Haven, the other off Fowey. From careful examination of these two I felt fully satisfied that they differed so much from *A. digitatum* that they were a new species. It has, first, a much thicker and tougher outer crust, deeper division of the lobes, having more polypes, and these never so much retracted, but that they are always somewhat raised, whereas in *A. digitatum* the cells are depressed, when the polype is drawn into them, and the whole appearance shows a thinner skin and altogether more feeble animal than *A. glomeratum*. The colour of the latter is at times a brilliant red. This state may be when full of ova; at all times it is red, and contrasts strongly with the very pale pink of *A. digitatum*. Couch and myself got only three specimens in Cornwall, and thus the new one must be considered very rare there. In Scotland, especially in the north, Aberdeen and Caithness, it is abundant, in fact, often the prevailing one, and far from rare off the Firth of Forth. I have frequently got both on the same stone or shell side by side, and although the bases of the spread-out feet touched, they *never overlapped or coalesced*. One thing more, I never saw what might be called intermediate stages. It is not so abundant in Shetland. (C.W.P.)

RHODOPHYTON COUCHII.—*Gray*. Named after the finder, the late Dr. Jonathan Couch. See Journ. Roy. Ins. of Corn. p. 154, No. 6, 1866.

* From the figure and part of the description given by Dr. J. E. Gray, in the Zoological Journal, 1865, pl. 23, p. 705—6. Unfortunately Dr. Couch has given so little of Dr. Gray's paper, that little can be said about it. By the figure, and that little, I should have thought it *Alcyonium glomeratum*, on finding that it had a "*hard continuous calcareous crust*." It thus differs so much from anything of the *Alcyonium* kind described as British that it must be quite a new thing, and I hope another specimen of it will soon be found. The specimen described "was drawn up by a fisherman's line off Polperro, attached to a shell."

Order—LUCENARIADA.

LUCERNARIA.—*Müller*.

————— AURICULA.—*Montagu*. Johnston, Brit. Zoo., ed. 2, woodcut, p. 264, fig. 54.

Couch, in his "Cornish Fauna," at page 83, mentions having found this species in abundance on the Cornish coast, and enters fully into a description of it, its manner of feeding, mode of progression, &c. In one point I think him wrong, when saying that after they had loosened their tentacula and by twisting the foot about, in this way they move from place to place, and "If the change be only for a short distance ——— they bend their campanulate rims and bring the tentacula in contact with the fucus, or whatever it may be, and by them adhere to it." It is the adherence to any object they wish to rest on by *their tentacles* that is wrong; they most certainly catch their food with them, but hold on to new objects when removing by the "marginal glands" of Couch—"oval vesicles" of Johnston—which they have on the margin, between the rows of tentacula. The use of these "glands" or "vesicles" was unknown until I had the pleasure of finding it out and of communicating it to Dr. Johnston, when he was writing the 2nd edition of his "British Zoophytes," in which, at p. 247, he kindly recorded the fact, in my own words. "Some time since I got four specimens of *Lucernaria auricula*, and was much pleased to notice the use of the little marginal tubercles between the bunches of tentacula. They are for the purpose of *holding by*, either for suspension or when removing from place to place. I have repeatedly tried them. After first noticing it, I found that they could adhere firmly to a piece of sea-weed or a bent of hay, if put to them, and it was curious to see how quickly and firmly they held. I have not seen this fact noticed before." I have found *Lucernaria auricula* in Cornwall, at Peterhead, in Aberdeenshire and Wick, in Caithness, N.B., and at Unst, the most northern part of Shetland; and at all places they held on in the same manner. I regret that no one appears willing to describe these really beautiful animals. Gosse intended to do so, in his "History of the British Sea-Anemones." At the close of the description of the Anemones he abandoned them and said—"Contrary to my original intention, I have determined to exclude this family from my work. Their true affinities are with the *Hydros* and *Medusa*"; and thus they remain literally undescribed. As for their relationship to the *Medusa*, I fancy the marginal tubercle is common to both—are their uses the same? It would be well if this were looked into;

they are really much alike. Hincks, in his introduction, at p. xxv of his "History of the British Hydroid Zoophytes," speaking about the swimming-bell of *Medusæ* says, "Its margin is furnished with a larger or smaller number of tentacles, and in many cases with a series of *small sacs*, in which one or more refractile spherules are enclosed. The latter are in all probability simple organs of sense, but of what nature we are not in a position to determine. Their function has been supposed to be auditory, but the conjecture is hardly borne out by an extended investigation of the structure."

A nice figure of the sac of a *Medusæ* is given in a woodcut, fig. 12, and it is really much like the "sac" on the margin of the *Lucernaria*. I hope this long story will be excused; I am so anxious to induce others to try to find out the true history of things, and at all times, if possible, to add my mite.

Other species of *Lucernaria* have been met with on the Cornish coast: as I have no work to refer to, and never studied them, I am unwilling to say anything more about them.

TRIBE I.—ASTRŒACEA.

Genus, ACTINOLOBA.—*Blainville*.

1—ACTINOLOBA DIANTHUS.—*Gosse*, Brit. Sea Anemones, p. 12, fig. 1.

ACTINIA DIANTHUS.—*Couch*, Corn. Faun., p. 79.

This very beautiful form is not rare on the Cornish coast. Couch found it at Polperro, Talland, Lantivet, and about Mounts Bay. Off the Deadman. (C.W.P.) Falmouth. (Cocks.)

It is wide-spread, and very abundant in Orkney and Shetland, and the north of Scotland, especially in caves in the cliffs into which the tide flows. There they congregate, of all sizes and colours by thousands, carpeting the sides of the caves and beautifying them with their flower-like forms and lovely colours. I have inserted this from not finding it noticed by Gosse that Couch knew it as Cornish.

Genus, SAGARTIA.—*Gosse*.

SAGARTIA COCINEA.—*Müller*.

ACTINIA COCINEA.—*Müller*, Zoo. Der. Pro. 231, No. 2792.

1.—SAGARTIA COCINEA.—*Gosse*, Brit. Sea Anem., p. 84, plate 5, fig. 4, 12 fig. 4 (magnified).

This was first found and described by the late Professor E. Forbes in Ireland. I was fortunate in finding it in Cornwall, and made a drawing of it, and when I got it again on Proudfoot, at Wick, N.B., on close examination I recognised it as an addition to the Scottish coast, and consequently to Cornwall. It is small and a pretty marked species, and probably rare, as *Gosse* gives only Ireland, Caithness, and Cornwall for it. It is found on stones and portions of shells, from deepish water. (C.W.P.)

SAGARTIA TROGLODYTES.—*Gosse*, plate 1, fig. 3, ii, fig. 5, iii, fig. 2, v. fig. 5.

ACTINIA VIDUATA.—*Couch*, Corn. Faun., 3, 75.

2. SARGARTIA TROGLODYTES.—*Gosse*, Brit. Sea An., p. 88, plate 1, fig. 3.

Not rare, generally distributed on the Cornish shore.

From deep water on *Pinna ingens*, and in sandy ground near low water mark, Polperro, Whitsand Bay, &c. (K.Q.C.) Off the Deadman, and in crevices of rocks between tide marks, &c. Off Gorran Haven, not rare. Peterhead and Wick, N.B. (C.W.P.)

3.—SAGARTIA (?) CHRYSOSPENIUM.—*Cocks*, p. 119, plate 6, fig. 8, *Gosse*.

* ACTINIA CHRYSOSPENIUM.—*Cocks*, Rep. Poly. Soc., 1851-5, plate 1 fig. 17.

Under surface of stones at extreme low water. Gwyllyn-Vase, Penzance, Helford, St. Ives, Cornwall. (W.P.C.)

Genus, ADAMSIA.—*Forbes*.

1.—ADAMSIA PALLIATA.—*Johnston*, plate 3, figs. 7-8, p. 124.

* On turbinate shells, generally inhabited by Hermit crabs. It is found in wide localities, and not altogether rare.

Falmouth. (W.P.C.) Gorran Haven, Peterhead and Wick, N.B., and in Shetland. (C.W.P.)

Genus, AIPTASIA.—*Gosse*.

1.—AIPTASIA COUCHII.—*Gosse*, plate 5, fig. 3, p. 152.

* ANTHEA COUCHII.—*Cocks*, Rep. Corn. Poly. Soc., 1851, xi, plate 2, fig. 30.

Attached to rocks. Gwyllyn-Vase, Helford River. (W.P.C.)
Falmouth. (S. Hodges.)

Genus, ACTINIA.—*Linnaeus*.

1—ACTINIA MESEMBRYANTHEMUM.—*Ellis and Sol*, p. 175, plate
6, fig. 1-7.

I have inserted this well-known species, and so abundant on the Cornish shores, to mention that "Granny," one of the Ilk, is still well and hearty, and throwing off young, although she has been in captivity in a small glass jar and little sea water for more than *fifty-two years*. She was brought to Sir J. Dalrymple in 1828, from the rocks on the Firth of Forth, and after his death has been cared for, first by the late Professor Fleming and Dr. McBain, and since their decease is now in the hands of Mr. Sadler, Curator of the Royal Botanic Garden here (Edinburgh), and is carefully attended to. "Granny" sees, or perhaps I should say lots of company *see* her. She is taken occasionally to the meetings of scientific societies here, and is looked upon with great interest by naturalists, and as well with feelings of loving respect for the memory of her three previous good naturalists and caretakers. We are pleased to know that she is again in excellent hands, and is watched over with jealous care. Mr. Sadler is always happy to show the venerable dame to natural history visitors. "Granny" is far from being a glutton, and is contented with a meal of mussel once a month. Several of "Granny's" descendants are well and living. (C.W.P.)

Genus, BOLOCERA.—*Gosse*.

1—BOLOCERA TUEDJÆ.—*Gosse*, plate 5, fig 1.

ANTHEA TUEDJÆ.—*Cocks*, Cor. Poly. Soc. Rep., 1851, ii, plate 2, fig. 33, 186.

* Of large size and rather rare on the Cornish coast. It occurs amongst trawl refuse, and occasionally on fishermen's lines from deepish water.

Falmouth. (W.P.C.) Peterhead, N.B. (C.W.P.)

Genus, BUNODES.—*Gosse*.

1—BUNODES GEMMACEA.—*Ellis and Solander*. *Gosse*, plate 4, figs. 2, 3, p. 190.

* ACTINIA GEMMACEA.—*Ellis and Solander*, Zooph. 3. *Cocks*, Rep. Poly. Corn. 151, 7, plate 1, figs. 24, 25, 28.

Falmouth. (W.P.C.) Adhering to rocks.

2—BUNODES BALLII.—Plate 4, fig. 4, p. 198.

ACTINIA BALLII.—*Cocks*, Rep. Corn. Poly. Soc. 1849, 94. Ibid. 1851, plate 2, fig. 9, 17, 18.

* Attached to rocks, Falmouth. (W.P.C.)

Genus, TEALIA.—*Gosse*.

1—TEALIA DIGITATA. Plate 6, fig. 10, p. 206.

Mr. Cocks got this at Falmouth. Rep. Poly. Soc. Corn., 1851. Mr. Joshua Alder off the coast of Northumberland, and these were the only localities for this species then known for it. In the Outhaaf, off Shetland, when with Mr. Jeffreys in 1864, I got it in some abundance on the rarest univalve mollusca, *Fusus Islandicus*, *F. Berniciensis*, &c., in some plenty. It is protean and restless, continually changing its shape, and is much smaller than *F. crassicornis*, in fact, differs greatly.

2—TEALIA CRASSICORNIS.—Plate 4, fig. 1, p. 208.

ACTINIA GEMMACEA.—*Couch*, Corn. Faun., p. 76.

Found on most coasts; abundant and fine in Cornwall. (C.W.P.)

Genus, HALCAMPa.—*Gosse*.

1—HALCAMPa CHRYSANTHELLUM.—*Peach*. *Gosse*, plate 7, fig. 9, 10, p. 246.

ACTINIA CHRYSANTHELLUM.—*Peach*, in *Johnston's* Brit. Zoo., ed. 2, i, 220, ii, plate 38, figs. 10, 15.

Under stones in muddy sand, near the Custom House, Fowey Harbour. (C.W.P.) Gwyllyn-Vase, Penzance, &c. (W.P.C.) Found only at present in Cornwall.

Lives well in confinement if the bottom of the vessel is covered with sand, so that it can bury itself.

Genus, CAPNEA.—*Forbes*.

1—CAPNEA SANGUINEA.—Plate 9, fig. 13, p. 280, *Gosse* 279.

KAPNEA SANGUINEA.—*Forbes*, Ann. Nat. His., ser. 1, 2, 6, 82, plate 1, fig. 1.

* This is another of Mr. Cocks's Cornish finds. See Report Roy. Corn. Soc. 1851, pl. 1, figs. 1, 2. On a valve of *Peeten maximus*, near Falmouth. (W.P.C.)

Genus, CORYNACTIS.—*Allman*.

1—CORYNACTIS VIRIDIS. Plate 9. fig. 1-5, p. 288, *Gosse*.

* This very pretty species Professor Allman first figured from Ireland, in 1843. I got it at Gorran Haven, Cornwall, and added it to the Cornish list. Figured it in 1852, in Rep. Roy. In. Corn., pl. A, figs. 1-10. It occurs often in large colonies on rocks, both in shore and deep water. I found a small specimen on the root of tangle, off the Black Skerry, Island of Stroma, Caithness, N.B. They live well in an aquarium. (C.W.P.)

Gosse's beautiful work was published in 1860. By this time, in all probability, more species of Sea Anemones have been found in Cornwall; if so, unfortunately I have no work to refer to, and so must leave others to do what I would willingly, if in my power. I think it right, however, to mention that a splendid one was discovered by the Rev. D. P. Alford, M.A., in the Scilly Islands, under stones, and is described by Mr. Gosse in the "Magazine of Natural History," pl. 7, series 3, vol. 16, as EGEON ALFORDI, *Gosse*. It is a splendid one, and "when fully expanded is at times four inches high, by one and a half-inch in diameter, expanse of flower six inches." Colour pea-green with purplish hue, &c.; is a most graceful animal. The Rev. Mr. Alford, when I visited Penzance in 1869, kindly sent me a living one. This I was enabled to study during my stay there, and was much interested in it. I mention it here in the hope that it will soon be found in Cornwall. (C.W.P.)

CLASS III.—POLYZOA.—*J. V. Thompson*.

Sub.-Order 1.—CHEILOSTOMATA.—*Busk*. *Family I.*—AETEIDÆ.

Genus, AETEA, *Lamouroux*,

AETEA RECTA.—*Hincks*.

HIPPOTHOA SICA.—*Couch*, Corn., Faun., 102, plate xix, fig. 9, *Johnston*, B.Z. Ed. 2, 292.

AETEA RECTA *Hincks*, Devon and Corn. Cat. N.H., Series 3 ix, 25, plate vii, fig. 3,

Plentiful on the Cornish Coast. (R.Q.C.) On old shells off the Deadman. (C.W.P.)

Genus, EUCRATEA.—*Lamouroux*.

EUCRATEA CHELATA.—*Linneus*. Brit. M. Poly., *Hincks*, p. 14, plate i, fig. 3; plate ii, figs. 4 and 8; plate iii, figs. 9 and 11.

CRISIA CHELATA.—*Couch*, Corn. Faun., plate 98, plate xviii, fig. 1.

Var. *a*, *repens*. Var. *β*, *gracilis*.

Common and widely spread. St. Ives, off the Deadman, &c. (T.H.) Gorran Haven, Mevagissey, Fowey, &c. (C.W.P.)

Genus, SCRUPOCELLARIA.—*Van Beneden*.

SCRUPOCELLARIA SCRUPOSA.—*Linneus*. *Couch*, Cat. Zoo. of Corn., p. 126; *Hincks*, Cat. Zoo. Corn. and Dev. p. 33.

I insert this to call attention to the discovery on the 10th June, 1876, of "curious hooks" on the radical tubes, by which this species moors itself to sponges; when on harder substances—such as stones shells, &c.—instead of hooks, spreading bird-foot-like rootlets or discs are used. These hooklets had been previously noticed by Busk on a *Scrupocellaria* from Bass's Straits, see British Museum Catalogue of Polyzoa, part i, plate xxv, fig. 3. *Couch* mentions in his Cornish Fauna, at page 127, and figures it in plate 23, fig. 3, "that at the joints where they come into contact with the substance on which the polypidom grows, a few slender tendrils arise with hooks by which the animal is firmly rooted," and here he stops. These hooks are *only useful when inserted in sponges*. *Couch's* observation relates to the next species only. *Ellis*, in his Essay on the Corallines on the Coasts of Great Britain and Ireland, 1755, noticed these hooks, at page 38, in CELLARIA REPTANS, and figured them in plate xx, fig. B, at F.

Plentiful in Cornwall. (C.W.P.)

SCRUPOCELLARIA REPTANS.—*Pallas*.

This has also similar hooks when attached to sponges. I found them lately in a specimen collected in Cornwall, more than thirty years ago, and have also detected them in specimens from the Firth of Forth, where they are not rare. (C.W.P.)

It is not rare in Cornwall.

Genus, CABAREA.—*Lamouroux*.1—C. BORYII, *Audouin*.

On the rib of an Old "Crab Pot" off Gorran Haven, more than thirty years ago. The 'pot' had been used for the crab season in deepish water and lost, and afterwards washed ashore. Rare. (C.W.P.)

Genus, BICELLARIA.—*Blainville*.1—BICELLARIA CILIATA.—*Linneus*.

This very beautiful object is not rare on the Cornish Coast. It occasionally grows in rounded masses, and as it acquires age, the interstices get filled with muddy sand; when so, from being in gales of wind in the roughened sea, a twirling motion is given to the mass and the delicate young protruding branches are broken off, and thus a top shape is given to the sandy mass: at first sight these abraded masses might be taken for sponges. After a time of comparative quiet, the builders again cover them over with fresh branches, sand fills up the new part, and thus the masses are enlarged from time to time, and as well smoothed again and again into top-shape, until got up by the dredger or thrown ashore in gales of wind. I well remember how much I was puzzled with the first I got; however, I soon found it out. I have seen them since in all stages of growth. (C.W.P.)

Genus, BUGULA.—*Oken*.1—BUGULA TURBINATA.—*Alder*.

————— *Hincks*, Dev. and Corn. Cat., 37.

Falmouth (Cocks.)

"This fine species—had been confounded with *Bugula avicularia*, until detected by the late Mr. Alder's keen and discriminating eye." It attains a large size, and forms large clustered growths beneath the ledges of rocks in the clefts and gullies, and under surface of stones near low water mark. It has not yet been noticed in the further north. Dorset on drift wood. (T.H.) Falmouth (Cocks).

Genus, BEANIA.—*Johnston*.1—BEANIA MIRABILIS—*Johnston*.

Bream Sands, near Falmouth. (Cocks.)

Off the Deadman, 1842, and on old shells on other parts of the Cornish Coast. Rare. (C.W.P.)

GENUS, CELLARIA.—*Lamouroux* (part).

CELLARIA FISTULOSA.—*Linnaeus*. *Hincks*, 106, B.M. Poly., plate xii, figs. 1 and 4.

FARCIMIA SALICORNIA.—*Couch*, Corn. Faun., iii, 129, plate xx, fig. 3.

On rocks and shells, Corallines, &c., from shallow to deep water. Plentiful on the Cornish Coast. (R.Q.C.)

2—CELLULARIA SINUOSA.—*Hassall*. *Hincks*, 109, B.M. Poly., plate 12, figs. 5—8.

FARCIMIA SINUOSA.—*Hassall*, Ann. Nat. His., vi, fol. vi, figs. 1—2.

On stones and shells from shallow to deep water. Abundant in places. Cornwall (T.H.) (C.W.P.)

Genus, FLUSTRA.—*Linnaeus*.

1—FLUSTRA PAPYRACEA.—*Ellis and Solander*.

FLUSTRA CHARTACEA.—*Couch*, Corn. Faun., iii, 121.

On stones and shells generally from moderate depths.

South Devon not uncommon; Salcombe bay, Plymouth; Torbay, Ilfracombe, 8—10 fathoms (T.H.); Cornwall, very rare, on shell from deep water 8 leagues south of the Deadman (Couch). Off the Deadman, a small specimen in 1842: it has been hoarded with jealous care, and I find a note on it, "made out its true name, Christmas Day, 1868,"—what a merry Christmas for me! It had, however, escaped my memory again up to the 29th June, 1880, when it turned up. (C.W.P.)

Genus, MEMBRANIPORA.—*Blainville*.

1—MEMBRANIPORA CATENULARIA.—*Jameson*.

HIPPOTHOA CATENULARIA.—*Couch*, Cornish Fauna, p. 101, plate xviii, fig. 5.

I insert this to show the name now given to it at page 134 of "*Hincks's British Marine Polyzoa*" (1880).

2—MEMBRANIPORA LACROIXII.—*Audouin*.

FLUSTRA LACROIXII.—*Savigny*, Egypte, plate x, fig. 9.

FLUSTRA PEACHII.—*Couch*, 9th Rep. Corn. Poly. Soc., 81.

MEMBRANIPORA LACROIXII.—*Hincks*, Brit. Mar. Poly., p. 129, plate xvii. 5, 8. Between tide marks, &c. Not at all rare in Cornwall, especially on mussels. (C.W.P.) Wick, N.B. (C.W.P.)

3—M. HEXAGONA.—*Busk*. Micro. Journ. for 1856, p. 308, plate 12, fig. 4.

Fowey harbour, off the Deadman, July 1869, on an Ascidian. Wick, N.B. (C.W.P.)

4—M. LINEATA.—*Linnæus*.

FLUSTRA LINEATA, *Couch*, Corn. Faun p. 124.

MEMBRANIPORA LINEATA.—*Busk*, B.M. Cat. ii, 58, plate lxi, fig. 1.

Common between tide marks on the Cornish Coast. (C.W.P.)

MEMBRANIPORA CRATICULA.—*Alder*.

5—FLUSTRA LINEATA, *Couch*, Corn. Faun., plate iii, 124, plate xxii, fig. 15. *Hincks*, Brit. M. Poly. 147, plate xix, fig. 7.

MEMBRANIPORA CRATICULA.—*Alder*, North^d. Cat. Trans. Tyneside Field Club, iii, 144, plate viii, fig. 3.

Very fine from off the Deadman, and on stones between tide marks, Gorran Haven, &c. Wick and Peterhead, N.B. (C.W.P.)

6—M. SPINIFERA.—*Johnston*. *Hincks*, Brit. M. Poly., p. 149, plate xix, figs. 1 *a*, *b*, *c*. Cat. Zoo. Dev. and Corn., p. 39.

Although Mr. Alder thought this to be identical with *M. Cratacula*, from having seen so many excellent specimens of both, I do not consider they are so.

On tangle roots, and between tide marks, on rocks and stones, off Gorran Haven, &c., on the Cornish coast. (C.W.P.)

7—MEMBRANIPORA FLUSTROIDES.—*Hincks*.

FLUSTROIDES.—*Hincks*, Brit. Mar. Pol., plate xix, fig. 2, p. 151.

On stones and shells from moderate depths, and from deep water.

Off the Deadman, Cornwall, 60 fathoms. (T.H.)

8—M. CURVIROSTRIS.—*Hincks*.

M. CURVIROSTRIS.—*Hincks*, Dev. and Corn. Cat. p. 39, plate vii, fig. 4, and Brit. Mar. Pol., p. 153, plate ix, figs. 5, 6.

Colonies forming a delicate pearly-white lace work. Ten or twelve miles south of Polperro, in 40 fathoms (T.H.) (C.W.P.)

9—MEMBRANIPORA DUMERILLII.—*Audouin*.

MEMBRANIPORA MEMBRANACEA (part)—*Johnston B.Z.*, ed. 2, 328, plate lvi, fig. 7. *Hincks*, Brit. Mar. Pol. 156, plate xx, fig. 3.

Chiefly on shells, stones, &c., from shallow to deep water, occasionally on *Laminaria*.

Cornwall, off the Deadman, 60 fathoms. (T.H.)

10—M. AURITA.—*Hincks*.

MEMBRANIPORA AURITA.—*Hincks*, Brit. Mar. Pol., 159, plate xxi, figs. 5, 6.

On stones and shells. Cornwall and Devon. (T.H.)

11—MEMBRANIPORA IMBELLIS.—*Hincks*, Brit. Mar. Poly., p. 160, plate xx, figs. 1, 2.

On shells, stones, &c., from deep water, off the Deadman. (T.H.)

12—MEMBRANIPORA FLEMINGII.—*Busk*.

MEMBRANIPORA FLEMINGII.—*Busk*, B.M. Cat. ii, 58, lxxxiv, figs. 3, 4, 5 (nos. plate civ, figs 2, 3, 4); *Hincks*, Brit. Mar. Pol., 162, plate xxi, figs. 1, 3.

On shells, stones, &c., &c., from between tide marks to deep water. (T.H.)

Plentiful off the Deadman and Cornish Coast generally. (C.W.P.)

13—M. ROSSELLII.—*Audouin*.

FLUSTRA ROSSELLII.—*Audouin*, Exploration 240. *Savigny*, Egypte, plate x, fig. 11.

M. ROSSELLII, *Hincks*, Brit. M. Poly., p 166, plate xxii, fig. 4.

On shells and stones from shallow to deep water.

Off the Deadman 1845. In 1849, in Fowey Harbour on clay slate. Rather rare. (C.W.P.)

Genus, MICROPORA.—*Gray*.

1—MICROPORA CORIACEA.—*Esper*, *Hincks*, Brit. Mar. Pol., p. 174, plate xxiii, figs. 3—7.

FLUSTRA CORIACEA.—*Esper*, plate vii, fig. 2.

On shells, stones, &c., from tide marks to very deep water.

On shell in Fowey harbour in 1859, and at Gorran Haven, &c. See Report Royal Institution of Cornwall, 1876. (C.W.P.)

Genus, STEGANOPORELLA.—*Smitt.*1—STEGANOPORELLA SMITTH.—*Hincks.*

MEMBRANIPORA ANDEVAGENSIS.—*Busk*, Crag. Pol., 35, plate ii. figs. 3 and 5 (probably not *ESCHARA ANDEVAGENSIS* of *Michelin*,) *Hincks*, Brit. Mar. Pol., 178, plate xxiv, figs. 5, 6.

On the tube of an Annelid from deep water.

I got this addition to the British list first in August, 1844, from deep water off Goran Haven, and marked it in my diary as “*new*, and of a dark-red colour.” In 1877, I again turned it up in my Cornish gatherings, on finding another, and then marked it as *Membranipora Rozieri*, of *Busk*’s Crag Polyzoa.—To Mr. *Hincks* is due the credit of truly defining it, and for the new name.

It is exceedingly rare. (C.W.P.)

Genus, CRIBRILLINA.—*Gray.*1—CRIBRILLINA RADIATA.—*Moll.*

ESCHARA RADIATA.—*Moll.*, Secrinde, 63, plate iv, fig. 17.

LEPRALIA INNOMINATA.—*Couch*, Corn. Faun., iii, 114, plate xxii, fig. 4.

CRIBRILLINA RADIATA.—*Hincks*, Brit. M. Poly., p. 185, fol. xxv, figs. 1, 9.

This very pretty species is rather variable; *Hincks* finds three varieties, and at times a little puzzling. Far from rare, I have got it in several localities in Cornwall, Suffolk, Aberdeenshire, Caithness, and Shetland. As well, I have found it as a Boulder Clay Fossil in Caithness. (C.W.P.)

The range in depth is from a little beyond low water to 170 fathoms. (C.W.P.)

2—CRIBRILLINA PUNCTATA.—*Hassall.*

LEPRALIA PUNCTATA.—*Hassall*, Ann. Nat. His., vii, 368, plate ix, fig. 7.

CRIBRILLINA PUNCTATA.—*Gray*, B.M. Rad., 117, and *Hincks*, Brit. M. Poly., 190, plate xxvi, figs. 1—4, and plate xxiv, fig. 3.

A very variable species, always beautiful, and widely distributed. It occurs between tide marks, on Algæ, stones, &c., in no great depth of water. (C.W.P.)

3—CRIBRILLINA ANNULATA.—*Fabricus*.

CELLEPORA ANNULATA.—*Fabricus*, Faun. Groent. 436.

CRIBRILLINA ANNULATA.—*Hincks*, Brit. Mar. Poly., p. 103, plate xxv, figs. 11, 12.

Not variable, it occurs on stones and *Laminaria*, in not very deep water.

Localities, Shetland and Wick, N.B. (C.W.P.); Cornwall (T.H.)

4—CRIBRILLINA FIGULARUS.—*Johnston*.

LEPRALIA FIGULARUS.—*Johnston*, B.Z., ed. 2, 314, plate lv, fig. 3.

CRIBRILLINA FIGULARUS.—*Hincks*, Brit. Mar. Poly., 196, plate xxvi, figs. 5—7.

Localities, Cornwall, 30 to 60 fathoms. (T.H.)

On a much decayed shell, and again in 1869, off the Deadman on Stone. (C.W.P.)

An interesting species but rather rare. See Report of the Roy. In. Cor. for 1876. (C.W.P.)

Genus, MEMBRANIPORELLA (part).—*Smitt*.

1—MEMBRANIPORELLA NITIDA.—*Johnston*.

LEPRALIA NITIDA.—*Couch*, Corn. Faun., iii, 114, plate xxii, fig. 3.

MEMBRANIPORELLA NITIDA.—*Hincks*, Brit. Mar. Poly., 200, plate xxvii, figs. 1, 8.

A very graceful species,—on stones and shells, and sheltered in the roots of *Laminaria*, and between tide marks. Not rare. Cornwall (C.W.P.) Wide-spread.

Genus, MICROPORELLA.—*Hincks*.

1—MICROPORELLA CILIATA.—*Pallus*.

ESCHARA CILIATA.—Var. β ., *Pall.*, Eleuch, 38.

LEPRALIA CILIATA.—*Couch*, Corn. Faun., iii, 118, plate xxii, fig. 10.

MICROPORELLA CILIATA.—*Hincks*, Brit. Mar. Poly., 206, plate xxviii, figs. 1, 8.

Very variable. On the red weeds, shells of blue-rayed limpet, stones, dead shells, &c., plentiful and wide-spread. Cornwall to Shetland. (C.W.P.)

2—MICROPORELLA MALUSII.—*Audouin*.

LEPRALIA BIFORUS.—*Johnston*, B.Z., ed. 2, 314, plate lvi, fig. 2. fig. 12.

CELLEPORA MALUSII.—*Aud.* Expl. 1, 319. Egypte, pl. viii,

MICROPORELLA MALUSII.—*Brit. Mar. Poly.*, p. 211, plate xviii, figs. 9—11, and plate xxix, fig. 12.

On weeds, shells, stones, &c., from in shore to 60 fathoms. Cornwall to Wick, N.B., and Shetland. (C.W.P.)

3—MICROPORELLA IMPRESSA.—*Audouin*.

LEPRALIA GRANIFERA.—*Johnston*, *Brit. Zoo.*, ed. 2, 300, plate liv, fig. 7.

MICROPORELLA IMPRESSA.—*Audouin. Hincks*, *Brit. Mar. Pol.*, p. 214, plate xxvi, figs. 9, 11, and plate xxix, figs. 10, 11.

A beautiful species—some little variation, always recognisable, not rare. On stones and shells, from tide marks to not very deep water.

From Cornwall to Shetland. (C.W.P.)

4—MICROPORELLA VIOLACEA.—*Johnston*.

LEPRALIA VIOLACEA.—*Johnston*, *Br. Zoo.*, ed. 2, p. 325, plate lvii, fig. 9.

MICROPORELLA VIOLACEA.—*Hincks*, *Brit. M. Poly.*, page 216, plate xxx, fig. 1, 4.

There are three varieties, all very interesting. From the Polkerris trawlers off Fowey. (C.W.P.)

Again off the Deadman in 1869. See *Journ. Roy. In. Corn.* 1876. (C.W.P.) Suffolk. (C.W.P.)

Genus, DIPORULA.—*Hincks*.1—DIPORULA VERRUCOSA.—*Peach*.

ESCHARA VERRUCOSA.—*Peach*, *Journ. Roy. In. Cornwall*, iii, (1868-1870) 88.

DIPORULA VERRUCOSA.—*Hincks*, 220, plate xxi, figs. 1, 2.

ESCHARA LUNARIS.—*Waters*. Bryozoa from the Pliocene of Brucoli.

Got up by a trawler in Lantivet bay, 1848, and hurriedly examined and thought to be *Eschara laevis* of Fleming. On seeing fine specimens of Fleming's species, dredged by Mr.

Jeffreys off Shetland, in 1864, I saw that it was not so, but a new species, one of the differences being its roughness, hence its specific name. So far I am not aware of its having occurred again on the British coast; it has, however, since been found by Mr. Waters in "the Pliocene of Brucoli, Sicily, plate ii, fig. 9."

Lantivet bay, Cornwall (C.W.P.) Sicilian Pliocene (Waters).

Genus, CHORIZOPORA.—*Hincks*.

1—CHORIZOPORA BRONGNIARTII.—*Audouin*.

FLUSTRA BRONGNIARTII.—*Audouin*, Expl. 240, Savigny, Egypte, Pol., pl. x, fig. 6.

CHORIZOPORA BRONGNIARTII.—*Hincks*, Brit. Mar. Poly., p. 224, xxxii, figs. 1—4.

It varies considerably, especially in the reticulated crust between the cells. As well, it is greatly affected according to whether fixed on shells, stones, or sea-weed, and age. It is far from rare, and is wide-spread. Plentiful off the Cornish coast. (C.W.P.)

Genus, SCHIZOPORELLA.—*Hincks*.

1—SCHIZOPORELLA UNICORNIS.—*Johnston*.

LEPRALIA UNICORNIS.—*Johnston*, B.Z., ed. 2, 320, plate lvii, fig. 1.

——— ANSATA.—*Johnston*, B.Z., ed. 2, 307, plate liv, fig. 12.

SCHIZOPORELLA UNICORNIS.—*Hincks*, 238, Brit. M. Poly., plate liv, fig. 1-5.

I think Mr. Hincks is quite right in making these one species only (*Lepralia unicornis* and *L. ansata*); there is nothing of sufficient importance to keep them separate. Plentiful in Fowey harbour, and from between tide marks to deep water off the Deadman, Cornwall, to Shetland (C.W.P.)

2—S. SPINIFERA.—*Johnston*.

LEPRALIA CILIATA.—*Hassall*, Ann. Nat. His., vi, 171, and vii, 367, plate ix, fig. 2. *Couch*, Corn. Faun., iii, 118, plate xxii, fig. 10.

S. SPINIFERA.—*Hincks*, Brit. M. Poly. 241, plate xxxv, figs. 6, 8.

It occurs very fine in the roots of *Laminaria*, on stones between tide marks, and occasionally in deep water. It has so occurred to me from Cornwall to Shetland. (C.W.P.)

3—S. VULGARIS.—*Moll.*

LEPRALIA VULGARIS.—*Busk*. Quart. Journ. Mic. Sc., viii, 275, plate xviii, fig. 3.

S. VULGARIS.—*Hincks*, Brit. M. Poly., plate xxxvii, fig. 7, and plate xv, figs. 5, 6.

A beautiful species and constant in character. Off the Deadman, 1869. See Journ. R. Inst. Corn., 1876. (C.W.P.)

4—S. SIMPLEX.—*Johnston*.

LEPRALIA SIMPLEX.—*Johnston*, B.Z., ed. 2, 305, plate liv, fig. 4.

S. SIMPLEX.—*Hincks*, Brit. Mar. Poly., 246, plate xxxv, figs. 9, 10. Dev. and Corn. Cat. 44, (*Hincks*.)

From trawl boats off the coast of Devon, (T.H.) Shetland, 1864. (C.W.P.)

I insert this in the hope of inducing some one to search for it in Cornwall; I fancy that I have seen it there. It is more interesting to me because of its range in time; I have it from the Boulder Clay, at Thurso, Caithness, N.B. (C.W.P.)

5—S. LINEARIS.—*Hassall*.

LEPRALIA LINEARIS.—*Hassall*, Ann. N.H., viii, vii, 368, plate ix, fig. 8.

S LINEARIS.—*Hincks*, Brit. M. Poly., 247, plate xxxviii, figs. 5—10. and plate xxiv, fig. 1.

A variable species; *Hincks* has figured four such, viz: α , *hastata*; β , *mamillata*; γ , *nitida*; and δ , *crucifera*; (Norman.) Abundant and generally distributed; Cornwall from tide marks to deep water. (C.W.P.)

6—S. ARMATA.—*Hincks*.

LEPRALIA ARMATA.—*Hincks*, Dev. and Corn. Cat. Ann. Nat. His., Series 3, ix, plate xii, fig. 5.

S. ARMATA.—*Hincks*, 258; Brit. M. Poly., plate xli, figs. 7, 8. On stones from 30 fathoms S.W. of Polperro. (T.H.)

7—S. AURICULATA.—*Hassall*.

LEPRALIA AURICULATA.—*Hassall*, Ann. Nat. His., ix, 412.

S. AURICULATA.—*Hincks*, 260, Brit. M. Poly., plate xxix, figs. 3—9.

Hincks has also two varieties, viz: α , *Ochracea*, and β , *cuspidata*.

Widely distributed and common: from shallow to deep water. Cornwall 60 fathoms (T.H.) Var. α , coast of Cornwall (T.H.) Off the Deadman, &c. (C.W.P.)

8—S. CECILII.—*Busk*, Quart. Journ. Micro. Soc. Zoophy., v, 173, plate xv, figs. 6, 7.

S. CECILII.—*Hincks*, 269, Brit. M. Poly., plate xliii, figs. 6.

On stones, &c. from rather deep water; coast of Cornwall. (T.H.)

9—S. HYALINA.—*Linnaeus*.

CELLEPORA HYALINA.—*Linn*, Syst. ed. 12, 1286.

S. HYALINA.—*Hincks*, 271, Brit. M. Poly., plate xviii, figs. 8—10.

Very variable; *Hincks* has as well as the normal form, three varieties, viz: α , *cornuta*; β , *incrassata*; γ , *tuberculata*.

A very curious and delicate species; it occurs on stones, shells, and sea-weeds, from the very smallest to *Laminaria saccharina*, and from tide marks to deep water. Abundant on the coast of Cornwall. (C.W.P.) (T.H.)

Genus, MASTIGOPHORA.—*Hincks*.

1—MASTIGOPHORA DUTERTREI.—*Audouin*.

FLUSTRA DUTERTREI.—*Audouin*, Epl. Savigny, Egypte, plate 9, fig. 2.

LEPRALIA WOODIANA.—*Busk*, Crag. Poly., 42, plate vii, figs. 1 and 3.

M. DUTERTREI.—*Hincks*, Brit. M. Poly., plate xxxvii, figs. 1 and 2.

On the south coast this does not appear to be frequently met with. *Hincks* got it off the Deadman in 60 fathoms—it occurred to me off the same place in 1867, only one example.—See Report of Royal Institution of Cornwall for 1876, plate, fig. 3. (C.W.P.) It is rather plentiful in the Out Haaf, Shetland, from 100 to 170 fathoms, on shells and stones. (C.W.P.)

Genus, SCHIZOTHECA.—*Hincks*.

1—SCHIZOTHECA FISSA.—*Busk*.

LEPRALIA FISSA.—*Busk*, Quart. Journ. Micro. Soc. Zophy., v, 308, 309, plate ix, figs. 8, 9, 10.

S. FISSA.—*Hincks*, Brit. M. Poly., plate xli, figs. 1—8.

Off the Deadman in 30 or 40 fathoms. (T.H.)

From the same locality hooked up on a stone 5 miles off by a fisherman, from rocks. See Report of the Royal Institution of Cornwall for 1876. (C.W.P.) Interesting but rare.

Genus, HIPPOTHOA.—*Lamouroux*.

1. HIPPOTHOA FLAGELLUM.—*Manzoni*.

—————*Hincks*, 293, plate lxiv, figs. 5, 7.

From Cornwall in Mr. Hyndman's dredgings, on stones from deep water. Common and widely distributed.

Genus, LEPRALIA.—*Johnston* (part).

1—LEPRALIA PALLASIANA.—*Moll*.

ESCHARA PALLASIANA.—*Moll*. Secrinde, 64, plate iii, fig. 13.

L. PALLASIANA.—*Hincks*, Brit. M. Poly., 297, plate xxxiii, figs. 1—3, and plate xxiv, fig. 4.

L. PEDIOSTOMA.—*Couch*, Corn. Faun., p. 113, plate xxiv,

On stones and shells from shallow water: plentiful in Cornwall. (C.W.P.) Orkney and Shetland, rare. (C.W.P.)

LEPRALIA FOLIACEA.—*Ellis and Solander*.

2 —————*Hincks*, Brit. M. Poly., p. 300, plate xlvii, figs. 1, 4.

ESCHARA FOLIACEA.—*Couch*, Corn. Faun., p. 131.

Hincks has as well two varieties, viz: α , *fascialis*; β , *bidentata*. (M. Edwards.)

Since the beautiful edition of *Hincks'* B.M. Polyzoa was published, on looking over specimens long laid by and forgotten, I turned out one collected by me in 1864, when with Mr. J. G. Jeffrey's dredging party in Shetland, and on carefully examining it, I thought it must be *L. foliacea*, and so sent it to Mr. *Hincks*.

He kindly returned it, saying that I "was right." In his description of this he notices one got by the Rev. A. M. Norman, in the Minch, Hebrides, it being the first ever got from that locality, and says :—" This is the most northern locality yet recorded." The one got in 1864 must now take place of the Hebridean one, being from *Ultima Thule*, and so much *farther north* than it. My specimen is on a small stone, and shows where the expanded sinuous plates had risen up, and been knocked off by the rough treatment it got in the dredge. I hope this will be excused, it not being Cornish ; however, it is interesting to learn that Cornwall is the Eldorado for such splendid examples of this species, and as well shows the dying out of species, when no longer in a suitable element. (C.W.P.)

3—L. PERTUSA.—*Esper*.

CELLEPORA PERTUSA.—*Esper*, Pflans, Cellep, 49, plate x, fig. 2.

L. PERTUSA.—*Hincks*, 305, plate xlii, fig. 4, 5, of Brit. M. Polyzoa.

In beautiful small patches in 1845, off Fowey, and on a stone got up off the Deadman in 1869. It is not rare. (C.W.P.)

LEPRALIA EDAX.—*Busk*.

4—CELLEPORA EDAX.—*Busk*, Crag. Poly., 59, plate ix, fig. 6, plate xxii, fig. 3 ; Quart. Journ. Micr. Soc., new series i, 154 ; Zoophy. plate xxiv, figs. 3, 3a.

L. EDAX.—*Hincks*, 311, plate xxiv, 7, 7a. Brit. M. Polyzoa.

My first acquaintance with this interesting species was before 1849. I got it from a crabbing-boat which had been working off the Deadman, Cornwall ; it was covering a small *Nassa*, and when first got was a bright red. It is rare, for in five years I got about as many specimens—one a year—all on the little spiral shells of *Nassa*. (C.W.P.)

Genus, UMBONELLA.

1—U. VERUCOSA.—*Esper*.

CELLEPORA VERUCOSA.—*Esper*, Cellep, plate ii, figs. 1, 2.

U. VERRUCOSA.—*Hincks*, 317, plate xxxix, figs. 1, 2. Brit. M. Polyzoa.

LEPRALIA RETIULATA of *Couch*, Corn. Faun., 117.

Varies much at times,—often very beautiful. It occurs on the upper face of stones and shells, and *Laminaria* roots, in shallow water, and on shells, &c. from deep water. It is widespread and far from rare : I have met with it from Cornwall to Unst, Shetland. (C.W.P.)

Genus, PORELLA.—*Gray*.

1—P. CONCINNA.—*Busk*.

LEPRAILIA CONCINNA.—Brit. B.M. Cat., ii, 67, plate xcix,

P. CONCINNA.—*Hincks*, Brit. M. Poly., 323, plate xlv,

Very variable according to age, and assumes many varietal forms, it is common and wide spread. There are two varieties, viz: α , *Belli*, (Dawson); and β , *gracilis*. It is found on shells and stones, generally from deepish water.

Plentiful on the Cornish coast; off the Deadman fine on stone, 1869 (C.W.P.) Not rare in Shetland.

2—P. COMPRESSA.—*Sowerby*.

MILLEPORA COMPRESSA.—*Sowerby*, Brit. Miscel. i, (1806), 83, plate xli.

P. COMPRESSA.—*Hincks*, Brit. M. Poly., plate xlv, figs. 4 and 7, and woodcut fig. 14.

ESCHARA CERVICORNIS.—*Busk*, B.M. Cat., iii, 92, plate cix, fig. 7, cxix, fig. 1.

CELLEPORA CERVICORIS.—*Couch*, Corn. Faun., p. iii, plate 20, fig. 1.

This is the *Porus cervinus* of *Borlase*, Nat. His. of Cornwall, 240, plate xiv, fig. 7.

“In the mode of growth there are many variations, but the minute characters are sufficiently stable.”—*Hincks*. I have collected specimens from Cornwall, especially from off the Deadman, and in Shetland in considerable numbers and in great varieties of form when dredging with Mr. Jeffreys in 1864. The southern forms are considerably larger and spread out into much broader palmate tips, and more rounded and massive branches below, than the Shetland examples, they are usually much more delicate, their branches much more slender. So says Mr. *Hincks*; in this I fully agree, and as well that “the minute

characters are sufficiently stable ;" this latter I have ascertained from the examination of a large collection—from less than half an inch in height, to the largest growth. The same character is to be seen *in all* ; the only variation that I can perceive is an external one. The border of the orifice is much raised with a sinus in the lower part of the margin and with ribs radiating from it covering the outer surface with stellate rays. This is figured as *Eschara stellata* var. Peach, in the Journal of the Linnean Society's Zool., xiii, 81, plate xiii, fig. 5.

If for nothing else, I call attention to it, to show the beauty of these markings. In Cornwall it is far from rare, in Shetland it is very abundant in the Out Haaf, in deep water down to 170 fathoms. (C.W.P.)

Genus, SMITTIA.—*Hincks*.

1—S. LANDSBOROVI.—*Johnston*.

LEPRALIA LANDSBOROVI.—*Johnston*, B.Z., ed. 2, 310, plate liv, fig. 9.

S. LANDSBOROVI.—*Hincks*, Brit. M. Poly., 341, plate xlvi, figs. 6, 9.

Differs somewhat in the cells and mode of growth. On the south-western coast, it never assumes the erect foliaceous state like *Lepralia foliacea*, as it does farther north, especially in Shetland. It is rather rare ; I got it in 1869 off the Deadman. (C.W.P.) There are two varieties of it ; form *a*, *crystallina*, (Norman) *β*, ? *porifera* (Smitt).

2—S. RETICULATA.—*J. Macgillivray*.

L. RETICULATA.—*Macgill*, Mag. Nat. His., ix, 467.

S. RETICULATA.—*Hincks*, B.M. Poly., plate xlvi, figs. 1, 5.

L. RETICULATA.—*Couch*, Corn. Faun., p. 117, plate xxii, fig. 8.

Differs in appearance, dependent upon age, locality, &c.

On *Pinnæ* from 40 to 60 fathoms, Cornwall. (T.H.)

From the Deadman in 1869 on stone. (C.W.P.)

3—S. CHEILOSTOMATA.—*Manzoni*.

L. CHEILOSTOMATA.—*Manzoni*, Bryoz. foss. Ital. Contrib. 3, 13, plate iv, fig. 22.

S. CHEILOSTOMATA.—*Hincks*, B.M. Poly., 349, plate xlii, figs. 7, 8.

Cornwall, shallow to deep water. (T.H.)

4—S. MARMOREA.—*Hincks*.

L. MARMOREA.—*Hincks*, Ann. N.H., Sept. 1877, 214.

S. MARMOREA.—*Hincks*, Brit. M. Poly., 351, plate xxxvi, figs. 3, 5.

From Guernsey, and probably Cornwall. (T.H.)

5—S. TRISPINOSA.—*Johnston*.

DISCOPORA TRISPINOSA.—*Johnston*, ed. Phil. Journ., xiii, 322 ; *Couch*, Corn. Faun. p. 118.

S. TRISPINOSA.—*Hincks*, Brit. M. Poly., 353, plate xlix, figs. 1—8.

Very variable in appearance and character, and wide-spread.

Var. *a*, *Jeffresia*, (Norman).

Cornwall, 60 fathoms, incrusting *Pinnæ*. (T.H.)

On stones, shells, &c., between tide marks to deep water, Cornwall. (C.W.P.)

Genus, PHYLACTETTA.—*Hincks*.

1—P. LABROSA.—*Busk*.

LEPRALIA LABROSA.—*Busk*, B.M. Cat., ii, 82, plate xcii, figs. 1, 3.

P. LABROSA.—*Hincks*, Brit. M. Poly., 357, plate xliii, figs. 1, 2.

Pretty, and constant in character, rather rare ; it is, however, met with in wide localities. Shetland (A.M.N.) ; Cornwall, off Fowey, and 5 miles off the Deadman, 1869. (C.W.P.)

2—P. EXIMIA.—*Hincks*.

LEPRALIA EXIMIA.—*Hincks*, Univ. Zool. and Bot. Assoc., ii, part 1, 75, plate iii, figs. 3, 3a.

P. EXIMIA.—*Hincks*, 359, plate xlix, fig. 9, of Brit. M. Poly.

This is an interesting and rare species, first got off the coast of Antrim, by Mr. Hyndman ; Shetland (A.M.N.) Off the Deadman, Cornwall, 1869, a single specimen. (C.W.P.)

Genus, MUCRONELLA.—*Hincks*.

1—M. PEACHII.—*Johnston*.

LEPRALIA PEACHII.—*Johnston*, B.Z., ed. 2, plate lv, figs. 5, 6.

M. PEACHII.—*Hincks*, B.M. Poly., 360, plate l, figs. 1, 5.

BERENICEA IMMERSA.—*Fleming*, p. 118, and plate li, figs. 1, 2.

Var. *a*, *labiosa*, (Busk); Var. *β*, *octodentata*.

This species varies much, according to age and localities: it is wide-spread, in fact, universally distributed on our coasts. (C.W.P.)

Range in time, from the Boulder Clay, Caithness. (C.W.P.)

MUCRONELLA VENTRICOSA.—*Hassall*.

2—LEPRALIA VENTRICOSA.—*Hass.* Ann. Nat. His. ix, 412.

M. VENTRICOSA.—*Hincks*, Brit. M. Poly., 363, plate l, figs. 6, 8.

On stones and shells from shallow to deep water. It varies a good deal; withal its characters are always constant. Cornwall, off the Deadman, and other parts of the coast. (C.W.P.)

3—MUCRONELLA VARIOLOSA.—*Johnston*.

LEPRALIA VARIOLOSA.—*Johnston*, B.Z., 278, fig. 4, *ibid*.

—————*Couch*, Corn. Faun. ed. 2, 317, plate lv, fig. 9.

MUCRONELLA VARIOLOSA.—*Hincks*, 306, plate li, figs. 3—7, Brit. Mar. Poly.

A very pretty but variable species; on stones and shells from deep water: off the Deadman, 60 fathoms, on Pinnæ (T.H.); and from the same locality and coast generally. (C.W.P.)

4—MUCRONELLA COCCINEA.—*Hincks*.

CELLEPORA COCCINEA.—*Abildgaard*, Müll. Zoo. Dan. iv, 30, plate cxlvi, figs. 1, 2.

LEPRALIA COCCINEA.—*Couch*, Corn. Faun., p. 115.

MUCRONELLA COCCINEA.—*Hincks*, 371, plate xxxiv, figs. 1—6, Brit. Mar. Poly.

Var. *a*, *mamillata*—Colonies of a glistening orange colour often in large patches, on stones, shells, &c., especially in the roots of *Laminaria*, Cornwall, (Couch), and (C.W.P.)

Genus, PALMICELLARIA.—*Alder*.

1—PALMICELLARIA SKENEI.—*Ellis and Solander*.

MILLEPORA SKENEI.—*Ellis and Solander*, Zoo., 135.

PALMICELLARIA SKENII.—*Hincks*, 379, Brit. M. Poly., plate lii, figs. 1—4.

CELLEPORA SKENII.—*Couch*, Corn. Faun., p. 111.

There are two other varieties, viz: α , *bicornis*; β , *foaliace*.

Off the Deadman, very rare: I got the variety—*tridens*, of *Busk*—in 1869, there. (C.W.P.)

It is wide-spread; it occurred to me at Wick and Shetland, N.B. (C.W.P.)

Genus, RHYNOPHORA.—*Johnston*.

1—RHYNOPHORA BISPINOSA.—*Johnston*.

LEPRALIA BISPINOSA.—*Johnst.* B.Z., ed. 2, 326, plate lvii, fig. 10.

RHYNOPHOPHORA BISPINOSA.—*Hincks*, B.M. Poly., 385, plate xl, figs. 1—5.

On stones from the Deadman, Cornwall, and Caithness, N.B. (C.W.P.)

Genus, RETEPORA.—*Imperata*.

1—RETEPORA COUCHII.—*Hincks*.

RETEPORA BEANIA.—*Hincks*, Devon Cat., ix, p. 50.

R. COUCHII.—*Hincks*, B.M. Poly., plate liii, fig. 6—11.

RETEPORA RETICULATA.—*Couch*, Cornish Faun., iii, p. 130.

On stone, &c., deep water off the Land's End (R. Q. Couch.)
South West of Polperro, 40 fathoms, on stone. (T.H.)

Genus, CELLEPORA (part)—*Fabricus*.

1—CELLEPORA DICHOTOMA.—*Hincks*, B.M. Poly., 403, plate lv, 1—6 and 7, 10 (Var., *attenuata*).

On Zoophytes, chiefly from deep water, off Polperro, 30 fathoms (T.H.) off the Deadman (C.W.P.) not uncommon.

2—CELLEPORA AVICULARIS.—*Hincks*, B.M. Poly., 406, plate liv, figs. 4—6.

On the stems and branches of Zoophytes in thick nodulous rolls; on shells, &c. from moderate depth of water off the Deadman. (C.W.P.)

South Devon and Cornwall, common. (T.H.)

3—CELLEPORA AROMATA.—*Hincks*, B.M. Poly., 410, plate liv, figs. 10—13.

On shell probably from deep water, Cornwall. (T.H.)

4—CELLEPORA COSTAZII.—*Audouin*.

LEPRALIA HASSALLII.—*Johnston*, B.Z., ed. 2, 1847, 304, plate liv, fig. 3.

L. COSTAZII.—*Hincks*, B.M. Poly., 411, plate lv, 1, 14.

Var. *a*, *tubulosa*; Plate lv, fig. 13.

On stones and shells, and stems of Algæ.

On the Cornish coast from shallow to moderately deep water (T.H). It is wide-spread, and a very pretty species. In Caithness, it abounds on mussels between tide marks. (C.W.P.)

Sub-order II—CYCLOSTOMATA.—Busk.

Genus, CRISIA (part).—*Lamouroux*

1—CRISIA CORNUTA.—*Linnæus*.

CRISIA SETACEA.—*Couch*, Zoologist, ii, 1096.

Habitat: on Algæ, Zoophytes, surface of rocks, shells, &c., from tide marks to deep water.

Widely distributed, Cornwall, (Couch). Peterhead, N.B. (C.W.P.)

2—CRISIA DENTICULATA.—*Lamark*, 422, Brit. M. Poly., plate lvi, figs. 7—9.

CRISIA LUXATA.—*Couch*, Corn. Faun., iii, 99, plate xviii, fig. 3.

In clefts and rock-pools near low-water mark, and on Algæ and Zoophytes, from tide marks to deep water. Very generally distributed. (C.W.P.)

Genus, STOMATOPORA.—*Brown*.

1—STOMATOPORA GRANULATA.—*M. Edwards*. *Hincks*, 425, plate lvii, figs. 1, 2.

ALECTO GRANULATA.—*M. Edwards*, Mem. 13, plate xvi, figs. 3, 3a.

On shells and stones chiefly from deep water, Cornwall (Couch). Wick, N.B. (C.W.P.)

2—STOMATOPORA MAJOR.—*Johnston*. *Hincks*, p. 427, B.M. Poly., plate lviii, and plate lxi, fig. 1.

TUBULIPORA TRAHENS.—*Couch*, Corn. Faun., iii, 105, plate xix, fig. 5.

In the present form the branching is often luxuriant, especially in the hollows of deserted shells. Generally more deep water, Cornwall (Couch). Fine off the Firth of Forth and Shetland (C.W.P.)

3—STOMATOPORA INCRASSATA.—*Smitt. Hincks*, 436, Brit. M. Poly., plate lix, figs. 2, 3.

From deep water on a valve of *Pecten maximus*, Salcombe Bay, also *Pinnæ* from Cornwall. (T.H.)

4—STOMATOPHORA DEFLEXA.—*Couch. Hincks*, Brit. M. Poly., 437, plate lvii, fig. 4.

TUBULIPORA DEFLEXA.—*Couch*, Cornish Faun. ii, 107, plate xi, fig. 4.

Polperro and Mevagissey Bay. (*Couch*). Shetland. (C.W.P.)

5—STOMATOPORA FUNGIA.—*Couch. Hincks*, Brit. M. Poly., 438, plate lvii, figs. 5, 6.

TUBULIPORA FUNGIA.—*Couch*, Corn. Faun., iii, 107, plate ix, fig. 3.

On stones and shells generally from deep water.

From the Eddystone lighthouse to Mevagissey Bay. (*Couch*). Wick, N.B. (C.W.P.)

Genus, TUBULIPORA.—*Lamarck*.

1—TUBULIPORA FLABELLARIIS.—*Fabricus. Hincks*, 446, plate lxiv, figs. 1—3.

TUBULIPORA PHALANGEA.—*Couch*, Corn. Faun., iii, 106, plate xix, fig. 7.

On shells—especially inside old bivalves,—Algæ in moderate depths.

Cornwall, 10 to 20 fathoms, common. (*Couch*). (C.W.P.)

Genus, IDMONEA.—*Lamouroux*.

1—IDMONEA SERPENS.—*Linnaeus. Hincks*, 453, B.M. Poly., plate lxi, figs. 2, 3, and plate lx, fig. 2.

TUBULIPORA SERPENS.—*Couch*, Corn. Faun., iii, 105, plate xix, fig. 6.—Var. *a*, *radiata*.

The delicate purplish colour and bright surface are characteristic points: on old shells and zoophytes, especially *Hydrallmania falcata* (T.H.) Generally distributed. Cornwall (C.W.P.)

Genus, ENTELAPHORA.—*Lamouroux*.

1—ENTELAPHORA CLAVATA.—*Busk*, Brit. M. Poly., 456, figs. 5, 8.

PUSTULOPORA CLAVATA.—*Busk*, Crag. Poly., 107, plate xvii, fig. 1. *Peach*, Journ. Roy. In. Corn., iv, 1871-73.

From the Wolf Rock near Penzance. (C.W.P.)

The late Miss Elizabeth Carne, of Penzance, was the first finder of this pretty species and addition to our Fauna. Rare. (C.W.P.)

Genus, DIASTOPORA (part)—*Lamouroux*.

1—DIASTOPORA PATINA.—*Lamarck*. *Hincks*, 458, Brit. M. Poly., plate lxvi, figs. 1, 6.

TUBULIPORA PATINA.—*Couch*, Corn. Faun., p. 105.

Wide-spread; often assumes a proliferous habit; in this state, off the Deadman in 1869, with 7 or 8 old and young ones springing from the original disc. I have also a fine example from the Firth of Forth, with *twenty* clustered from the old disc. (C.W.P.)

2—DIASTOPORA OBELIA.—*Johnston*. *Hincks*, 462, plate xlv.

TUBULIPORA OBELIA.—*Couch*, Corn. Faun., 108. Generally distributed on our coasts.

On shells and stones, and at times on Algæ.

3—DIASTOPORA SARNIENSIS.—*Norman*.

D. SARNIENSIS.—*Hincks*, B.M. Poly., 463, pl. lxvi, figs. 7, 9.

On shells, stones, &c. to deep water.

Off Polperro, Cornwall (T.H.) Lantivet bay, on *Isocordia* cor. (C.W.P.)

Genus, LICHENOPORA.—*Defranc*.

1—LICHENOPORA HISPIDA.—*Fleming*. *Hincks*, Brit. M. Poly., 473, plate lviii, figs. 1, 8.

DISCOPORA HISPIDA.—*Couch*, 109, plate xix, fig. 1.

Var. *a*, *meandrina*,—*Peach*, woodcut 475. *Hincks*, B.M. Poly.,
Var. *β*, *Zoarium*, composite.

Found in Cornwall from tide marks to deep water, and Var. *a* off Shetland on *Porella compressa*, 80-170 fathoms. (C.W.P.)

Sub-order III—CTENOSTOMATA.—*Busk*.

Genus, ALCYONIDIUM.—*Lamouroux*.

1—ALCYONIDIUM MYTILI.—*Dalzell*.

Habitat: on shells, stones, and *Fucus*, from tide marks to deep water. Probably very common and generally distributed, though few localitiés have been recorded.

Mounts Bay, Cornwall, Ilfracombe (T.H.) Northumberland, common (Alder). Scotland (Dalzell).

Genus, AMATHIA.—*Lamouroux*.

1—AMATHIA LENDIGERA.—*Linnaeus*. *Hincks*, Brit. M. Poly., 516, plate lxxiv, figs. 7—10.

SERIALARIA LENDIGERA.—*Couch*, Corn. Faun., iii, 94, plate xvi, fig. 4.

On Fuci, especially *Halidrys siliquosa*, from low-water mark to deep water; on the Cornish coast. (C.W.P.)

Genus, BOWERBANKIA.—*Farre*.

1—BOWERBANKIA IMBRICATA.—*Adams*. *Hincks*, B.M. Poly., 549, plate lxxii, fig. 1, 2.

VALKERIA IMBRICATA.—*Couch*, Corn. Faun., iii, 95, plate xvii, fig. 2.

On various Fuci, *Corallina officinalis*, &c., and Polyzoa. From tide marks to deeper water. (C.W.P.)

2—BOWERBANKIA PUSTULOSA.—*Ellis and Solander*. *Hincks*, Brit. M. Poly., 523, plate lxxvi, figs. 1—5.

SERTULARIA PUSTULOSA.—*Ellis and Solander*.

On Fuci, &c. in shallow water: Fowey Harbour, and Gorran Haven, very rare. (C.W.P.)

Genus, CYLINDRÆCIUM.—*Hincks*.

1—CYLINDRÆCIUM GIGANTEUM.—*Busk*. *Hincks*, Brit. M. Poly., 536, plate lxxvii, fig. 12, lxxix, 1, 3.

FARELLA GIGANTEA.—*Busk*, Quart. Journ. Mic. Soc., iv, 93, plate v, figs. 1, 2.

On rocks near low water mark; off the Deadman, Cornwall, (C.W.P.)

Off Gorran Haven and the Deadman. (C.W.P.)

Genus, MIMOSELLA.—*Hincks*.

1—MIMOSELLA GRACILIS.—*Hincks*, and Brit. M. Pol., woodcuts, figs. 27 and 34, 556, plate lxxiv, 1—6.

VALKERIA CUSTUTA.—*Couch*, Corn. Faun., iii, 96, plate xvii, fig. 3.

In the Laminarian Zone on *Halidrys siliquosa*; all along the Cornish coast plentiful and beautiful (T.H.). (C.W.P.)

Order—PEDICELLINEA.

Genus, PEDICELLINA.—*Sars*.

1—PEDICELLINA CERNUA.—*Pallas*. *Hineks*, 565, Brit. M. Poly., plate lxxxii, figs. 1, 3 and woodcut, figs. 36, 39.

PEDICELLINA ECHINATA.—*Sars*, Beskr. of Jak. Hag., &c., 1835, 5, plate 1, figs. 1, a, f, &c.

On Zoophytes, Algæ, shells, &c. between tide marks and in shallow water.

Fowey Harbour, Gorran Haven, &c.; see Report Roy. In. Corn. for 1848, p. 56-59, plate 2, figs. 5, 5a, 5aa, 5b, 5c, 5d. (C.W.P.)

BRITISH MADREPORIA.

Professor P. Martin Duncan, has a paper "On British Madreporia" in the Transactions of the Zoological Society of London, part 5, vol. viii, 1873. In it he has described the *Caryophyllia*, and the other forms noticed in this paper, and placed them amongst the Madreporia or Stony Corals. Bowing to his authority, I have separated them from the Polyzoa, &c., amongst which they have hitherto been included.

Genus, CARYOPHYLLIA.—*Lamarck*.

1—CARYOPHYLLIA CLAVUS.—*var. Smittii*. P. Martin Duncan.

CARYOPHYLLIA SMITHII.—*Stokes*, plate x, figs. 12, 13, of "Gosse's B. Sea An.," p. 310. Since the publication of "The British Sea Anemones," by Gosse, Professor P. Martin Duncan, in 1873, published a paper in the proceedings of the Zoological Society of London, "On British Madrepora," in which he enters fully into the history of the *Caryophyllia* of the British Seas, and at page 309, he says "that the specific identity of the forms formerly called *C. Smittii*, of Stokes, and *C. borealis*, of Fleming, is beyond doubt," and having found that *C. clavus* of *Sacchi* has the priority, in future

they must be *C. clavus*, varieties *Smittii* and *borealis*. Consequently the Cornish form is *C. clavus*, var. *Smittii*.

In Shetland, when with Mr. Jeffreys dredging in 1864, I made a series of drawings from living specimens of the *Caryophyllia clavus*, var. *borealis*, got there, as I well knew the animals of the Cornish species. I could find no difference in the two varieties, and took great pains to see whether a difference could be made out, and became fully convinced that none could be. The sketches I lent Professor Duncan, and from these he had plates made to illustrate his paper on the subject, and fully concurred in the conclusion I had come to, that the animals were the same, and that the difference in the shape of the Coralline arose from the Cornish ones having stones and shells to form upon, with plenty of room for a wide foundation. The Shetland ones, on the contrary, in the abyssal depths had only the *Dentalium* like small cases of the *Ditrupea* to build upon, and thus its top-like shape and small base.

Occasionally, Cornish ones are found with very narrow bases, and of peg-top shape, from being built upon small things. In the Shetland seas—rarely however—they fix on a piece of shell or stone and have a wider base, thus showing that the difference in shape arises from accidental circumstances, and not from specific differences. Generally, the Cornish specimens, if mingled with others from Shetland, could be detected at once by their bearing specimens of the pretty *Pyrgoma Anglica* perched on the outer edges of the plates; the Shetland ones also have their distinguishing mark, from being perched on the tube cases of *Ditrupea arietina*, such not being found in Cornwall, and thus it may mostly be detected by the company it keeps.

In one of the broken specimens of *Caryophyllia clavus*, var. *borealis*, I observed *Cnidi*—*Aconita* or thread-bearing cells—such had not before been noticed in this Coral.

Genus, SPHENOTROCHUS.—*M. Edw. & Haime.*

1—SPHENOTROCHUS WRIGHTII.—*Gosse*, plate x, fig. 3, p. 326.

This pretty coral I got in sand procured from Lantivet Bay, —see Journal of Royal Institution of Cornwall, No. 10, 1869, p. 117;—it is a small species and has a wide range. I also found four specimens in sand dredged by Dr. J. Gwyn Jeffreys off Shetland, in from 80 to 100 fathoms, 1864. (C.W.P.)

2—SPHENOTROCHUS MACANDREWANUS.—*M. Edwards and Haime* plate x, fig. 4, page 124.

I obtained a dead specimen of this coral off the Deadman, when I lived at Gorran Haven; unfortunately I have lost it. I did not take the care of it I ought to have done, suspecting it might be fossil,—I am sorry for it,—however, I got it off of that Eldorado for corals and Polyzoa. (C.W.P.)

BALANOPHYLLIA.—*Wood*.

BALANOPHYLLIA REGIA.—*Gosse*, *Actinologia Brittanica*, page 343, plate x, figs. 10, 11.

Ilfracombe (P.H.G.) Lundy (C.K.)

Hincks, *Cat. S. Dev. and Corn.*, page 342, supplied with a specimen from the coast of Cornwall, dredged in five fathoms, Lantivet (?) Bay. (W. Loughrin). Plymouth Sound. (T.H. Steward.)

All species marked thus (*) not to be found in Couch.

EXPLANATION OF INITIALS USED.

J. A.	...	...	...	...	Joshua Alder.
R. Q. C.	...	...	...	...	Richard Quiller Couch.
W. P. C.	...	...	...	...	W. P. Cocks.
P. H. G.	...	...	...	...	P. H. Gosse.
T. H.	...	...	...	...	T. Hincks.
A. M. N.	...	...	...	...	A. M. Norman.
C. W. P.	...	...	...	...	C. W. Peach.

EXPLANATIONS OF ABBREVIATIONS.

Hincks's Cat. Zoo. Dev. and Corn.—*Hincks's Catalogue of the Zoophytes of Devon and Cornwall.*

„ *Brit. Hy. Zoo.*—*Hincks's British Hydroid Zoophytes.*

„ *Brit. Mar. Poly.*—*Hincks's British Marine Polyzoa.*

Rep. Roy. In. Corn.—*Report of the Royal Institution of Cornwall.*

Rep. Roy. Poly. Corn.—*Report of the Royal Polytechnic Society of Cornwall.*

Couch Corn. Faun.—Couch's Cornish Fauna.

Pro. Lin. Soc. Lond.—Proceedings of the Linnæan Society of London.

Alder, North and Cum. Cat of Zoo —Alder, Catalogue of Northumberland and Cumberland Zoophytes.

Ann. and Mag. Nat. His.—Annals and Magazine of Natural History.—London.

Linn. Syst.—Linnæan System.

Gosse, Brit. Sea Anem.—British Sea Anemones.

B.M. Cat.—British Museum Catalogue.

RETURN OF SILK DRESSES IN THE REIGN OF QUEEN ELIZABETH.

Communicated by E. H. W. DUNKIN, *Corresponding Member*.

CORNEWALL.—An Inquisicon Indented taken at Trewro, in the coun' aforesaid the ixth day of October, yn the ffowrth year of the Rainge of o^r Sou'inge Lady Elizabeth, by the grace off God off Englund, ffraunce, and Ireland, Quene Defendor of the ffayth, &c., Before John Trelawny, John Reskymer, and Henry Chyverton, esquiers, Commissioners by vertu of the said Quenes ma^{te} comission to them & to S^r Willm Godollphyn Knight, directed To enqyre what wyffe or wyffes wth in the said coun' dyd wear Sethens the xvth day of Auguste laste paste any Gowne of Sylke, ffrenche hode or bonet of vellvet wth any habylyment paste or Edge of gold aboute here or there Neckes or in here or there partelettes* or in or appon any parcell of there Boddye. By the othes of John Langdon, John Trevanyon, Thomas Kendall, esquiers, Phellip Mayow, Richard Gyll', Willm Poppe, Roger Coppin, Ric' Hoblyn, John Browne, John Lauxton, Robt. Code, Ric' Braye, Stephin Lampen, Willm Marten, John Langdon of Warlegan, John Daryte, John Carpenter, & John Garrett, which appon there said othes saye,

That the wyffe of S^r Willm Godollphyn Knight, hath sins the said xvth day of Auguste laste paste worn a gowne of Sylke and hath Trottinge gelding wth armor and ffurnytüre for the same.

And that the wyffe of John Arondell of Lanherne, esquier, hath sins the said day worn a gowne of Sylke and hath a trotting gelding wth armor & ffurnytüre ffor the same.

And that the wyffe of Heugh Trevanyon, esquier, hath sins the said day worn a gowne of Sylke, and hath a trotting gelding wth armor & ffurnytüre ffor the same.

And that the wyffe of Pears Edgecomb, esquier, hath sins the said day worn a gowne of Sylke, and hath a trotting gelding wth armor and ffurnytüre ffor the same.

* Partletts—A ruff or band formerly much worn about the neck by both sexes "wyth partelettes and pastis garnished wyth perle."—*Mores Supplycayon of Soulys*, sig. L. ii.

And that the wyffe of John Trelawny, esquier, hath sins the said day worn a gowne of sylke and hath a trotting gelding wth armor & ffurnytüre ffor the same.

And that the wyffe of John Arryndell of Treryse, esquier, hath sins the said day worn a gown of Sylke, and hath a trotting gelding wth armor & ffurnytüre ffor the same.

And also that the wyffe of John Bevyll, esquier, hath sins the said day worn a gowne of Sylke, and hath a trotting gelding wth armor and ffurnytüre for the same. In wytnes whereof as well the said comission's as the said jurors to this p'sent Inquisicon hath put to there Seales yeven the day and year above wryten.

[Signed] JOHN TRELAWNY. JOHN RESKYM'.

HENRY CHYV'TON."*

The foregoing inquisition was taken in pursuance of an Act of Parliament passed in the 4th & 5th year of Philip & Mary. entitled: "An acte for the having of Horse Armour and weapons,"† in order to ascertain the names of those who were bound to keep one great trotting horse by reason of their wives wearing certain kinds of apparel and jewellery, in compliance with an act passed in the 33rd year of Henry VIII. By this Act it was enacted that the nobility should keep a certain number of trotting horses according to their rank, for defence of the realm, &c., and that every spiritual person under the degree of a bishop having benefices worth £100 and not worth 500 marks, and every other temporal person "whos wiff after the feast of Saint Michael tharchaungell next hereafter mentioned in this Acte [i.e. 1545] shall were any gown of sylke or whos wiff shall were any Frenche hood or bonnet of Velvett, w^t any habiliment past or egge [edge] of gold, perle or stone, or any chayne of gold about their nekkes or in their partletts, or in any apparell of their bodie" should keep and maintain one trotting horse for the saddle under the penalty of forfeiting every time of non-compliance £10.‡

* *Statutes of the Realm*, Vol. iv. pt. i., p. 316.

† Exchequer, Special Commissions, Cornwall, 4 Eliz. No. 512.

‡ *Statutes of the Realm*, Vol. iii. p. 830.

Royal Institution of Cornwall.

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OF THE

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VOLUME VII.

Part III.—*December, 1882.*

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1882.

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SUPPLEMENT.—Two Sets of unpublished Letters of
Rev. Henry Martin, B.D., edited with pre-
fatory remarks, by H. M. Jeffery, F.R.S. . . . 1 to 62

ERRATA.

Page 233, line 5—For "Loswithiel" read "*Lostwithiel*."
 ,, ,, 31—For "given him" read "given by him."

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1882.

The Council of the Royal Institution of Cornwall desire that it should be distinctly understood that the Institution as a body is not responsible for any statements or opinions expressed in the Journal; the Authors of the several communications being alone answerable for the same.

ERRATA

In Part II, Vol. VII, 1882—in *Mr. Peach's Catalogue, &c., of
Cornish Zoophytes*, p. 149.

PAGE.

- 150 Line 20 from the top—for Actriuzoa, read *Actinozoa*.
152 Line 20 from the top—for metans read *nutans*, and for Sarsin read *Sarsii*.
154 Line 9 from the top—for Sertularidæ, read *Sertulariadæ*.
160 Lines 1 and 2—Cocinea, read *Coccinea*.
168 Line 9 from bottom—add *M.* before *Flustroides*.
170 Line 17 from bottom—for Cribillina, read *Cribrillina*.
172 Line 2, for bifornis, read *biforis*.
174 Line 5 from the bottom—for Lepraliarmata, read *Lepralia armata*.
177 Line 6 from the bottom—for Umbonella, read *Umbonula*; and same page,
line 4 from bottom—for Cellehora verrucosa, read *Cellepora verrucosa*;
and last line from the bottom—for reticulata, read *reticulata*.
178 Line 14 from bottom—for Cellepora cervicoris, read *Cellepora Cervicornis*.
179 Lines 15, 16, and 17—for Landsborovi, read *Landsborovii*.
182 Line 4 from bottom—for aromata, read *armata*.
186 Line 6 from top—for Stomatophora, read *Stomatopora*.

Royal Institution of Cornwall.

SPRING MEETING, 1882.

The Annual Spring Meeting was held at the Rooms of the Institution, Truro, on May 30th 1882. The President, The Earl of Mount Edgecumbe in the chair. Amongst those present were The Lord Bishop of Truro; Dr. Jago, F.R.S.; Dr. Barham, F.M.S.; Revd. W. Iago, F.S.A.; Dr. Hudson, Mr. Tweedy, Mr. H. S. Leverton, Mr. R. H. Carter, Mr. H. James; Major Parkyn, Hon. Sec.; Revs. Canon Phillpotts, Chancellor Whitaker, Canon Harvey, F. C. Barham, A. K. Tomlinson; Messrs. E. Carlyon, J. G. Chilcott, W. N. Carne, A. Jennings, T. Hawken, S. Trevail, R. Symons, etc.

The following list of presents was read :

ADDITIONS TO THE LIBRARY.

Account of Observations of Transit of Venus, 1874, December 8th	From the Astronomer Royal.
Abstract of a Report upon the Geological and Mining Industry of Leadville, Colorado ...	From Mr. S. F. Emmons.
Monken Hadley, by Frederick Charles Cass, M.A.	From the Author.
Transactions of the Manchester Geological Society	From the Society.
Transactions of the Geological Society of Glasgow	Ditto.
Transactions of the Royal Geological Society of Cornwall	Ditto.
Journal of the Royal Geological Society of Ireland	Ditto.
Proceedings of the Birmingham Philosophical Society	Ditto.
Journal of the Society of Arts	Ditto.
Proceedings of the Zoological Society of London	Ditto.

Transactions of the London and Middlesex Archæological Society	From the Society.
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Philosophical Society of Glasgow Reports, relative to exhibition of apparatus, &c. ...	Ditto.
Monthly Notices of the Royal Astronomical Society	Ditto.
Journal of the Cambrian Archæological Associa- tion	From the Association.
Proceedings of the Geologist Association ...	Ditto.
Journal of the Royal Historical and Archæo- logical Association of Ireland	Ditto.
Journal of the Anthropological Institute of Great Britain and Ireland	From the Institute.
Proceedings of the South Wales Institute of Engineers	Ditto.
Transactions of the North of England Institute of Mining and Mechanical Engineers... ..	Ditto.
Transactions of Epping Forest and County of Essex Naturalist's Field Club	From the Club.
Collections, Historical and Archæological, relat- ing to Montgomeryshire and its borders ...	From the Powy's Club.
The 49th Annual Report of the Royal Cornwall Polytechnic Society	From the Society.
* Two Photographs of the Cross at Quethiock...	From Mr. George Freeth.

ADDITIONS TO THE MUSEUM.

No. 1. Crystallized Native Gold in beautiful Octahedra—Colorado	Presented by Mr. R. Pearce.
2. Native Gold in Diorite—Arizona ...	Ditto.
3. Native Silver, massive—Mexico ...	Ditto.
4. Native Silver, Crystallized—Mexico ...	Ditto.
5. Native Silver in slate rock—New Mexico	Ditto.
6. Massive Horn Silver—Leadville, Col- orado	Ditto.
7. Horn Silver—New Mexico	Ditto.
8. Massive Silver Glance—Colorado ...	Ditto.
9. Massive Ruby Silver—Colorado ...	Ditto.
10. Kupfer Nickel—Colorado	Ditto.
11. Native Tellerium—Colorado	Ditto.

* MR. FREETH in presenting the photographs of the Quethiock Cross drew attention to the fact that the markings on the shaft of the Cross are very indistinct, so much so, that even at a short distance, in a bad light, the camera could not detect them. The horizontal diameter of the Cross itself is 33 inches, the vertical diameter 35 inches. The diameter of the base is 4 feet 6 inches, the front face across the bottom of the shaft is 1 foot 10 inches, and the total height from the foot of the shaft to the top of the Cross is 13 feet 9 inches.

12. Telluride Lead—Colorado	... . ...	Presented by Mr. R. Pearce.
13. Silver and Gold Ore "Cornstock vein"		
—Nevada	... ..	Ditto.
14. Granite, Butte Silver Mining district		
—Montana	... ..	Ditto.
15. Silver Ore, Butte Silver Mining district—Montana	... ..	Ditto.
16. Carbonate of Manganese, Butte Silver Mining district—Montana	... ..	Ditto.
Dioxide of Copper, "Cuprite," Artificial Formation...	... ..	Ditto.

The PRESIDENT then delivered his Address, which will be found at page 196 of the present number of this Journal.

The following papers were then read :—

"On Rame Chapel," by R. N. WORTH.

"The late Mr. J. T. Treffry," by R. SYMONS.

"Note on the Artificial Formation of Dioxide of Copper," by R. PEARCE.

Mr. PEARCE also forwarded a paper "On the Silver Deposits at Butte, Montana Territory," and also several valuable specimens of minerals for the Museum. Dr. BARHAM, in explaining these, spoke very highly of the interest Mr. PEARCE shewed in the Institution.

The Rev. W. IAGO, F.S.A., next drew attention to a stone corbel of an angel's head found near the old Friary, Bodmin, and erroneously supposed formerly to represent one of the Mayors of Bodmin, who was hanged : an old swivel spur, probably used at the time of the Great Rebellion, and found by Mr. Olver on the estate occupied by him near Pencarrow : a photograph of the head of the ancient cross of Lostwithiel : and a sand dredge formerly in use instead of blotting paper. He also presented in the name of the finder, Mr. Thomas, of Hustyn Mill, the remains of a sepulchral urn, already described in Vol. 7, page 141 of the Journal of the Institution.

Mr. J. BRYANT next described the remains of the old Craizing Mill and pounding stones in Constantine.

Votes of thanks were passed unanimously—To the Authors of Papers submitted to the Society, to the Donors to the Museum and Library, and to the President for his able Address and conduct of the Meeting.

Spring Meeting, 1882.

THE PRESIDENT'S ADDRESS.

In selecting your President for the year, you have chosen one whose only qualification for that distinction is that he loves his native county—with a certain narrow-minded affection, which would make him quite happy if all the interests of his life were limited by the banks of the Tamar and the shores of Cornwall; and that nothing which helps to bring to light the records of her past history, to keep fresh the memories of her departed worthies, to elucidate and register her physical characteristics and resources, and above all to encourage the talents and energies and promote the welfare of her people—nothing in short for which this Institution invites the co-operation of its members—can be indifferent to him. A busy man, but a bad man of business, he often longs—and longs in vain—for a little of that leisure for thought and reading which others seem able to make for themselves, and without which any attempt to place before you an address appropriate to this occasion, and even in the most distant degree worthy of those which have gone before—and which are stored in the pages of your Journal—is altogether out of the question. Turning back those pages beyond the two years, during which the chair has been filled by our esteemed diocesan,—and you have listened to the wisdom and music of his words,—back to the year when the unprecedented depression of Cornish industries drew from his eloquent predecessor so sad a forecast of the years to come—it is a source of gratitude and hopefulness to see that a change for the better, which some of the wisest then deemed beyond hope, has come. It would, indeed, be rash to prophesy for the future. The life of a country, like that of an individual, must be more or less a continued struggle with fluctuations, sometimes

the most unforeseen. In either case, if we expect to reach a haven untroubled by anxiety for the future, disappointment must be the result. But when depression is not the effect of degeneration in the individual or people, we may hope for compensating influences, and I think we can look back upon that time without any sense of shame.

It was caused by influences beyond our control, and brought out characteristics which did credit to all classes—exemplary patience in those who suffered; liberality, ample and timely (which was all-important), in those who had the means to help; judgment, sympathy, and unwearied zeal in those who administered the relief. One most gratifying feature was the large amounts remitted by Cornishmen from the Australian colonies. Strange to say the amount contributed by those in the United States was comparatively insignificant. The absence of anything like a breach of the peace throughout the months when, notwithstanding all that could be done by the relief committees, many must have been in want of the necessities of life, was as remarkable as it has generally been among Cornishmen in similar times of trial. This is a trait of Cornish character which cannot be denied, and of which we may speak with pride. Unhappily I cannot speak of it now without some reference to what occurred in a neighbouring town a short time since, lest I should appear willing complacently to ignore an event which, although highly exceptional, no one who values the honour of his county would wish to palliate for a moment. A cowardly outrage, by several men upon one, aroused just and natural indignation, but was followed by acts of lawless violence which no such indignation could excuse, and all evidence against the ringleaders appears to have been silenced either by fear or sympathy. Throughout the county there was a feeling of bitter shame at such a blot having been cast upon the character of our people. The prudent action of the magistrates, in conjunction with the military authorities, in shewing by a strong but judicious display of force that order must be restored; the activity and readiness of all the respectable inhabitants to assist in maintaining peace by their personal influence and personal service as special constables, as well as their promptitude in making good at once by subscription the reckless damage done to a place of worship, were redeeming features in the transaction calculated, I think, to produce a beneficial

effect in the future as well as at the time. Let us be thankful that no irreparable injury to person or property at the hands of Cornishmen has left a permanent stain on the records of the county; and let us hope that the name of Camborne may never again be heard as a byword for personal violence.

Another event of a far more satisfactory kind which has marked the year is worthy of notice, if only as an example of the leading characteristics of the Cornish people. One is their long and deeply engrained respect for the Lord's-day, not merely as a day of rest but as a day to be held sacred. How marked this is among the western fishermen you know well; and we at Plymouth can also observe, when the Penzance boats are in our waters on a Saturday evening, and are seen crowding into the inner harbour to be laid up, closely packed side by side, during the Sunday, when the voice of the preacher and the sound of hymns are heard from their decks. The other characteristics of more recent growth is the earnest determination to exorcise the demon of intemperance. These two characteristics were manifested in the petition to Parliament, which was signed with such remarkable unanimity in favour of what is called the Cornwall Sunday Closing Bill. It also is an instance of that independence and inclination to act for themselves which has been exemplified before—not always profitably, perhaps—in Cornish history. That this independent action may not meet with encouragement in the House of Commons is, I fear, probable, and if Mr. Warton and those who oppose the bill shew their scorn of Tre, Pol, and Pen, by speaking until Big Ben strikes six, and the bill is thus talked out, it will be a poor consolation to the—not 20,000 Cornishmen—but the 120,000 signatories of the petition to “Know the reason why.”

Recurring to the material resources of the county, the price of tin, which in 1879 never exceeded £101 a ton and fell as low as £64 10s., gradually rose through the two following years, and reached its highest point in January last, when it ranged from £113 10s. up to £118. From that time it has again gradually and steadily receded, and during the present month it has never exceeded £103, and has been as low as £96 10s. Among the compensating influences to which I referred, the improvements in machinery admit of low quality ores being returned at a profit which, under the old system, would have been practically value-

less; and the low prices which obtained for so long have already proved a great stimulus to the use of tin in its application to new purposes, and in course of time—in the opinion of those who are good judges—increased consumption will prove an important factor in price. All that can be said now is that good miners have no difficulty whatever, as I am told, in obtaining employment, and can earn a very fair living. Yet emigration still continues, and probably the fact of a considerable exodus having taken place during the depression in 1878-9 has afforded facilities for young men and women to join friends already established in Canada and elsewhere. If this be so, it affords a reasonable ground for believing that the money spent on emigrating families by the relief committees was not wasted. At the same time it is true that the universal demand for the Cornish miner gives him opportunities of good employment all over the world, and although we cannot but regret to see our population decreasing (as it has done by 10,000 in a decade) and the best men going away, yet it is satisfactory to remember that those who have gone to earn their fortune in other countries are not altogether lost to this county. Many return, no longer as working miners, but as men of considerable means, such as they might never have acquired at home, and able and willing to use those means in an enlightened manner for the benefit of those around them. The evident uncertainties of mining make it a matter of the greatest importance that the other industries applicable to the county should be actively developed. Any man who, from the fruits of foreign travel or scientific research, is able to offer suggestions which may lead to new channels for Cornish labour and capital, deserves the thanks of his countrymen.

It is in the meantime satisfactory to note that the supply of early vegetables, upon which so many depend in the western district, has increased considerably. From data kindly given me by a friend in that district, I learn that where 9,000 tons of potatoes were disposed of in 1879, 10,000 tons were supplied in 1881, and that in the same period the supply of brocoli rose from 7,000 to 11,000 tons. The cultivation of strawberries and other fruit on the steep banks of the Tamar, is also on the increase. The supply of fish obtained on our coasts during the past three years does not appear to have undergone any unusual fluctuations,

but as fully 10,000 souls may be said to be dependent upon fishing for a livelihood, it must always be a matter of interest to retain some record of the annual produce. The quantities taken in 1879-80-81 have been estimated at 4,000, 3,500, and 3,800 tons respectively. Last year about 15 hogsheads of pilchards were exported to Mediterranean ports, the price on shore ranging from 50s. to 70s. per hogshead. The precarious nature of this industry was painfully manifested about a month ago, when on some parts of the coast, especially at St. Ives, one terrific gale caused such destruction to the nets and gear of the fishermen, as I believe fairly entitles them to claim exceptional sympathy and help. The damage in the St. Ives fishing fleet alone is estimated at nearly £2,000.

Exhibitions connected with Fisheries have been successfully held of late years in various places, and excited considerable interest. A large international exhibition of this kind is to be held in London next year, embracing every description of tackle and apparatus connected with sea and fresh-water fishing, the outfit of fishermen, preparation, preservation, and utilization of fish, as well as their natural history and culture, with prizes for essays on subjects relating to the development of this most important industry. The accumulated information from all parts of the world which will thus be brought directly under the observation of our people, can hardly fail to be beneficial to English fishermen, and I am glad to hear of proposals both from east and west for the appointment of committees to represent this county in connection with that great undertaking. Practically, I venture to think that this might be more conveniently done by one committee than by two; but that is a question which will no doubt be discussed at the meeting on Thursday, at which I much regret that I shall be unable to be present.

I must now turn to those events in the past year which have especially affected the Royal Institution itself, and the first sad, but inevitable, duty of each succeeding president must be to note the gaps which time has swept in the ranks of our members. Happily, as far as my knowledge enables me to speak, these have not been numerous within the past twelve months. In Lord Robartes the Institution has lost a constant supporter, and Cornwall a man whose ability, position, and character, marked him as one of her distinguished worthies—

“ A man of high degree and large estate
Unostentatious dwells in his old hall,
Well pleased when on his threshold footsteps fall
Of bidden guests ; and strangers coming late
Through the long avenues have not long to wait,
Whether they seek his kindness or advice ;
Who pulls the bell has not to sound it twice ;
And 'gainst the poor he never bars his gate,
Yet cares to know his alms are well bestowed.
Humane, yet firm, generous as self-denying,
He scatters not his largess on the road ;
Succours in secrecy the sick and dying,
And builds a hospital with no intent
That it shall be his public monument.”

All this was true a little while ago, and I make no excuse for quoting this ode from the latest volume of our tuneful poet, because, although you have all heard them before, in no fitter words can the memory of the modern Thane be enshrined in your records. You all remember when the news that the “ Old Hall ” had been almost entirely destroyed by fire awakened such widespread regret among his many friends, as well as among all who could appreciate the beauty of that most interesting and picturesque of our county mansions. Like many others I visited the scene of the catastrophe a few days after. It was sad to see the blackened ruins of the house where I had once been kindly welcomed. But sadder still to learn that its Lord, the benevolent old man, whose frugal habits were but a contrast to his generous charity, whenever human distress appealed to him for aid, and whose kind heart could hardly bear the very animals upon his property to be destroyed, was watching in an adjoining house the death-bed of the partner of his life. That day, in the midst of all his wealth, he was literally homeless and desolate ! What had he then to live for ? A new departure in life's journey at threescore years and ten is hardly possible. The next time I passed through the ancient gateway, it was to see him laid beneath the stately trees which overshadow alike the house which had been his home through life, and the church through which he was borne to his last resting place. The restored building had then risen on the ashes of the old one. Closely following the lines of the ancestral dwelling but new and strong, untouched by the hand of time, prepared for a fresh career of hospitality and usefulness. May it be a type of the successor into whose hands it has passed. I believe the only

other loss we have to lament is that of Mr. G. F. Remfry, a member who, while spending much of his life in Egypt, India, &c., never forgot the interests of the society, as may be seen by the many reminiscences of his foreign travels which have been received from him.

It must always be a matter of interest to this Institution to record such works as may have been published during the year either by Cornish authors, especially if they are members of its own body, or upon subjects connected with the objects it encourages, or relating to matters of local interest ; but I fear that it is not in my power to do more than give a bare list of a few which have been brought to my notice.

The Bibliotheca Cornubiensis has secured such an established position as a work of reference for Cornish literature, and has met with such hearty and general approbation, that it is useless for me to invite a cordial welcome for its forthcoming supplement. The summary of meteorological observations taken during the last forty years at this Museum and published in the Journals is now ready for the press, and combined with previous records connected with the county, going back to the year 1728, it will constitute one of the longest existing histories of local climate. The scientific study of climatic phenomena to which modern instruments and telegraphic communication have given birth, is yet in its infancy. It can only be developed by accumulated statistics ; and those who patiently and conscientiously work them out in their own localities may be leading up to results still unforeseen, while they are doing that which is the distinct function of societies like this, viz., obtaining knowledge upon a scientific basis which may be of vital importance to the material welfare of the localities themselves.

Among works on subjects of Archaeological interest, I would call your attention to "the Monumental Brasses of Cornwall," by Mr. E. H. W. Dunkin, a carefully illustrated volume which supplies interesting information not previously collected upon that subject.

Our Cornish Worthies have found a biographer in Mr. W. H. Tregellas.

There is a little publication of modest dimensions, though widely circulated, which I think all who are interested in local

archæology should know of, if they do not—I mean the *Western Antiquary*, published monthly, and edited by Mr. W. H. K. Wright, the able and zealous librarian of the Plymouth Free Library; it is often full of interesting correspondence. But perhaps one of the most interesting books published in the year is that which contains the journals and letters of Miss Caroline Fox, who, in her sketches of many celebrities with whom she came in contact, fully illustrated the originality and vigour of mind which is characteristic of her family.

To the last number of your Journal, your Secretary Mr. H. M. Whitley has contributed a paper upon the Church Goods of Cornwall, giving most interesting details carefully extracted from the inventories of Henry VIII and Edw. VI, found in the Public Record Office; and Mr. Peach's elaborate list of Cornish Zoophytes, has added an immense number and variety to the catalogue compiled by the late Mr. R. Q. Couch.

Two papers by Mr. Spence Bate and Mr. Hare, referring to the Pre-historic interments recently found at Trethill in Sheviok, and to the Quethiock Cross, will be read with extreme interest, not only on account of the clearness of the description given, accompanied as they are by careful illustrations, but because they record two of the most interesting relics of antiquity which have been brought to light in Cornwall for some years. The happy discovery of the old churchyard cross is a subject of especial satisfaction. The head buried, perhaps for safety,—the shaft in two pieces forming gateposts in an adjoining field—it now stands once more in its old place, the loftiest and one of the most beautiful of its kind in Cornwall.

I am happy to be able to report that another interesting relic of early christianity has been latterly restored to notice. It is a small baptising or holy well, like many which are scattered through Cornwall, but of earlier date than most. It stands within my own Park, and with shame I must confess that the little ruin had altogether escaped my observation until pointed out to me by a friend. Enough remains fully to justify the restoration of the building, which has been undertaken by Mr. James Hine.

We know it to have been called St. Julian's Well—as the stream which passes through it into a trough immediately below it on the high road has always gone by that name. Who St.

Julian was I know not, nor do I know whether Mr. Borlase could help me to discover. He is not here to-day, and I can the more freely say that I believe if his paper upon the early Cornish Saints had been the only work of his facile pen, it would have given him a lasting name for historic discrimination, indefatigable research, perspicuity, power of interesting his readers, and all the highest qualities of an historian.

The small chapel on Rame Head (also on my property) is far too conspicuous an object even to have been lost sight of, but Mr. R. N. Worth has sent us a paper upon it. It will tell of facts in its history unknown to many of us.

A work of unsurpassed interest is now going on in the wild old moorland parish of Temple, near Bodmin, where, after the lapse of 150 years, the roofless, desecrated walls of the Temple Church are now being strengthened and roofed as funds permit, under the zealous care of the energetic rector of Helland. Already had the Vicar of St. Neot, under great difficulties, renewed God's service there, and in the ancient font received some children into the Church of Christ, though to do this the font had to be cleared from its surrounding nettles and brambles, and a large ash tree had to be cut down from its position inside the walls to allow of a covering to be spread to shelter the congregation collected once again within the precincts of the storm-worn building. I think I may well close my disjointed remarks by wishing the rector of Helland "God speed" in his righteous endeavour to house once more the neglected congregation beneath the roof of its own parish church.

I have thus jotted down most hastily and imperfectly a few matters which it is convenient should find a place in your records through my lips. But it seems to me, a president who, like myself, has not had time or occasion to concentrate his attention upon any special subject by which he can hope to afford information or inspire interest, should rather make it his aim—especially during the first year of his presidency, to place himself, if I may so say, *en rapport* with the Institution, and either by offering respectful suggestions, or inviting expressions of opinions from others, to bring under your consideration such proposals as may tend to the future usefulness of the society itself. May I then venture to say that I think the meaning of

local Cornish names is a subject which has even yet not been fully worked out. Would it not be worth while for some one thoroughly conversant with the Welsh language—for that is essential—to take this up once more ; and would it be altogether impossible for us to restore the proper spelling of some of the names which have been altogether perverted from their meaning ? Might we not gradually rescue such names as Bosant from the desecrating influence which has converted it into Percent—so little suggestive of “the Saint’s dwelling”—or the “holy abode.”

But it should be the object of this Institution not merely to search for lost records of the past, but also to keep the history of the present posted up to date. In the case of public buildings, such as our churches, if we can do little ourselves, we can at least endeavour to awaken an interest in the minds of those who have the care of them.

Some time ago the Bishop sent round to the Clergy and others a schedule of questions with reference to the Architectural features and interior fittings of our parish churches. How many of these were answered I know not. Comparatively few, I fear, although in most cases the form might have been filled up in an hour. In connection with this subject it has been remarked as strange how totally all record has been lost of the circumstances under which, and the persons by whom the universal restoration of Cornish churches was effected at the end of the 15th century. Yet, strange as this appears, it must seem more strange, though I believe equally true, that in many of our churches you would find it impossible now to obtain similar information with respect to work done within the last 50 years. Would it not be well if in every parish a Church book were kept in which all alterations or additions to the building should be regularly recorded ? And could not our members do something to encourage such a record in their own parishes ?

The last enquiry is whether I am wrong in thinking that something might be gained by a closer intercourse between the three great kindred Societies of the county—the Royal Polytechnic, the Geological, and your own ? Whether in some cases, without touching their autonomy in local interests, they might not afford each other mutual help ? Perhaps it may be thought that a good

opportunity of moving in that direction may be afforded by the approaching Jubilee of the Royal Polytechnic Society.

Those excursions, which have now become annual events, were I believe the means of infusing new life into our Society at a time of something like stagnation, and have been found greatly to conduce to the interest it awakens, and to its usefulness. And this is natural, especially as regards its relations to all material objects of interest in the county. For the interest awakened by seeing an object must always be greater than can be afforded by the description of it; the manifestation of that interest is calculated to encourage the careful preservation of the objects themselves; while the visits of the society to different parts of the county tend to its recognition as the centre of information upon the subjects of which it takes cognizance. I hope therefore that the usual excursion will be repeated this year and that it may be so timed as to be also of some advantage to the Royal Polytechnic Society.

One word more, and I have done. Is there no way in which the journals of this, aye, and of other societies also, may be made more available as a work of general reference? Each volume has, I know, its index, and each number its table of contents; but these have already multiplied to such an extent as to render reference very difficult. A *Catalogue Raisonné*, which might in itself be a most interesting volume, would add greatly to the value of all the previous publications. In conclusion, I can only express a hope that during the next two years I may be able to do more to further the interests of the Institution than it has been possible for me to do hitherto.

THE WATCHMAN AT RAME.

By R. N. WORTH, F.G.S., *Corresponding Member.*

Some of the most prominent headlands on the Channel coast are crowned by the remains of little buildings of mediæval character, which appear to have served the double purpose of votive chapels and of giving shelter to warning lights. Many such have no doubt disappeared, and of those that remain there is not a more interesting example in the West of England than the tiny Chapel of St. Michael, which has formed for so many centuries a distinguishing feature of the grandly-outlined Rame Head. It is not my purpose to attempt any description of this quaintly-massive edifice, perched so boldly on its peak. That may come more fittingly from another pen when the work of restoration which our noble President—with that wise and reverent spirit ever characteristic of the true antiquary—has devised, is completed.

My only object is briefly to call attention to the fact, that whatever may have been the original purpose of its founder, the Rame Chapel was utilised throughout the middle ages by the Corporation of Plymouth as the station of a watchman, whose duty it was to give warning of the approach of strange fleets, and who, to some extent at least, acted under the direction of the minister of the parish, bluntly described as the “parson of Rame.” So far as it had a warning purpose for the seaman, the Chapel seems to have been associated with two other buildings of kindred character—the Chapel of St. Nicholas on what is now called Drake’s Island, but which until the commencement of the last century was hardly ever known by any other name than that of its patron saint, and the Chapel of St. Catharine on Plymouth Hoe. The lights shown from these three buildings would give a safe course to the sailor into Plymouth Harbour, anciently limited to Sutton Pool and the Cattewater; and they afford an example of what must have been for the time a very complete pilotage arrangement. Of the three Chapels, that upon Drake’s Island

was probably the oldest, and dated back to the thirteenth century; those on the Hoe and at Rame were of the fourteenth century, the Hoe Chapel finding the earlier mention of the two. It does not appear to be quite clear whether the Island Chapel was originally dedicated to St. Nicholas or St. Michael, and upon that point would very much depend its origin—whether at the first it was purely of a general religious character, or whether it always had a maritime connection. The dedication of the Rame Chapel to St. Michael is the most usual one for religious edifices erected on high places.

From some scores of entries concerning the watchman at Rame scattered up and down the municipal accounts of the borough of Plymouth, I make a few illustrative extracts. The earliest that can now be traced occurs in the records of the first year which have been preserved—1486—just four centuries ago.

Itm. payd vnto the whaycheman att Rame ffor keepyng off ye bekyn ther & brinyng iiij tymys iiij^d

The charge therefore was not a heavy one; a penny a time for coming from Rame to Plymouth and going home again is no extravagant sum, even if we reckon the money at eight times its present value. Penlee was also used as a look-out place, as in the course of centuries it has come to be again, by the men now stationed there to descry the approach of the homeward-bound mail steamers, and signal them to the agents at Plymouth. We have in 1511-12 (the accounts are made up for the respective mayoralties)—

Itm. pd to the pson of Rame for the wacchewan at penlee xviiij^d

This must have been in the nature of salary, for in the following year the watchman at Rame had 2s. for his year's wages, and 4d. extra "for a rewarde to come & give warnyng for shyps at see." No man in his senses would have accepted such a post independently, at such a salary—say 15d. a month—and this fact, together with the association of the "parson" in the transaction, suggests that the office of watchman may at this time at least have been undertaken by some one concerned in the service of the Chapel, and therefore customarily on the spot. I do not gather that the watch was permanent, but rather infer that it was only set when danger seemed impending. Thus in 1537-8, when letters had been received from Henry VIII to restrain piracy, 4d.

was paid to two men—apparently unconnected with Rame—"that watched the water syde for pyratts." My next entry is dated 1543-4.

Itm. pd. to the waycheman at Rame when the Sowthermen came home *iiij^d*

This was evidently a payment by the job, and at an advanced rate. The reference is clearly to the return of some Plymouth ships that had ventured into the South Seas, whither William Hawkins the elder had pioneered the way. In the same year we also have a proof of the growing importance of the Newfoundland trade.

Itm. to the waycheman at Rame when the bekenys were burnyd *iiij^a*

Itm. for his comyng hether by nyght when the new founde land men came yn *viiij^d*

Instead of a penny a time for coming to Plymouth the thriving watchman had now 4d., and double pay for night duty—say about 2s. 6d. for the one, and 5s. for the other.

The last entry I shall quote refers to the Armada. In the memorable 1587-8 mayoralty of William Hawkins, the brother of Sir John, which witnessed the preparations made in Plymouth harbour for the reception of that great fleet, the authorities were ever on the *qui vive*, and boats were at different times sent out, precisely as phrased by Macaulay—

"To pry along the coast,"*

while we have the exact justification of the companion line—

"And with loose rein and bloody spur rode inland many a post."

in such an entry as this,—

Itm. pd to Nicholas Lane for Carrienge of a letter to Mr. Edgcombe vppon reporte of the Spanishe fleete to be on y^e coste *vj^d*

I need hardly say that the "Mr. Edgcombe" here referred to is one of the ancestors of our President, whose family find frequent mention in the Plymouth archives. At such a time of peril the value of Rame as a look-out station was enormous, and so we read,—

Itm. pd to John Gibbons and Henry Woode for watching at Rame hedde *iiij* daies when the Spaynyers were vppon the Coaste *xs.*

The old Chapel had then for many years ceased to be used either for religious purposes or as a lighthouse.

*In one case the boatmen "that went to discover a fleet" had 2s.; and in another 6s., while in a previous year a boat was actually sent to Brittany for this purpose.

NOTES ON THE SILVER DEPOSITS AT BUTTE, MONTANA TERRITORY

BY R. PEARCE, JUNR., F.G.S.

These Mines are in granite, and the lodes resemble in many respects the tin deposits of Cornwall.

In 1864 I read a short paper at the meeting of the Royal Cornwall Polytechnic Society of Cornwall, the main object of which was to show that many of the so-called lodes of Cornwall were merely bands of stanniferous altered granite, and that this change or metamorphism had probably been effected by the circulation of water through the natural joints of the granite, the water containing in solution the necessary elements to effect this change.

The change of felspar into chlorite was clearly shewn in some of the specimens accompanying the paper; well marked pseudomorphs could be traced, the whole impregnated with oxide of tin and forming a mass of rock, which although generally recognised as lode matter, was in reality no vein matter at all, in the general acceptance of the term.

The subject to which, I believe, I was the first to draw attention, has more recently been taken up by Dr. Le Neve Foster, who has written a very able paper, which appeared in the transactions of the Geological Society of London; and I am pleased to find that the opinions I held 18 years ago, and expressed with a great deal of diffidence, have been confirmed by so good an authority as Dr. Foster. I may add that I have recently submitted a piece of tin rock from Dolcoath Mine, consisting mainly of quartz, mica and chlorite, with one or two scattered crystals of felspar, to the microscopist connected with the geological survey here, Mr. Cross, and he confirms my theory as regards the change of felspar into chlorite.

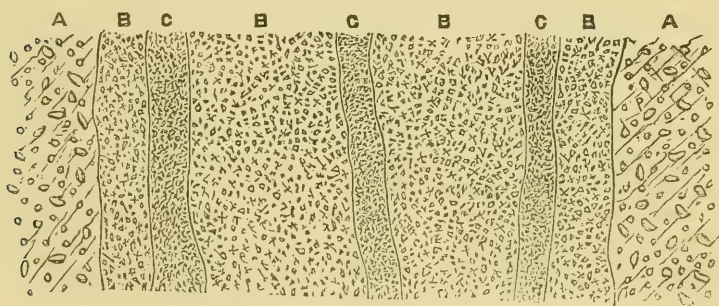
The granite in which the Montana Silver Mines are situated, is traversed by dykes of a porphoritic rock resembling our Cornish elvans, but which really consists of Rhyrolite, according to the diagnosis of Mr. Cross—who has studied the rock from prepared microscopic sections.

The matrix of the veins consists mainly of quartz, mixed with carbonate and silicate of manganese. These minerals give to the mass a beautiful rose-coloured appearance.

The silver minerals are principally native silver, silver-glance, Fahlerz, mixed with varying quantities of iron pyrites, zinc, blende and galena.

The veins vary much in width, from a few inches to 3 and 4 feet. The miner's estimate of the size of the lodes is greatly in excess of what it really is, from the fact that they are accustomed to regard the whole mass of rock which shews any signs of mineralization, as part and parcel of the vein, and the natural joint of the granite is often regarded as the true wall of the fissure.

The following is a rough sketch of a band of rock and small veins as it appeared in the breast of one of the drifts in the Moulton Mine, the total width being about 10 feet.



(a) represents the pure unchanged granite. (b) altered granite shewing kaolinized felspar, and sprinkled through with iron pyrites, zinc, blende, &c., containing a little silver, the latter being present to the extent of from 5 to 20 ounces per ton. (c) veins of quartz, and carbonate of manganese, containing usually from 40 ounces to 100 ounces of silver per ton.

The outcrop of the lodes frequently shew large continuous masses of quartz and black oxide of manganese, principally Psilomelane and Pyrolusite, and these highly oxidised minerals extend in depth to about 40 feet. They are really manganous gossans, and are formed by the conversion of the carbonate of manganese into minerals having a higher degree of oxidation.

The silver and lead sulphides which are found below the zone of oxidising influences, are changed into chloride in the case of silver, and the lead into carbonate; and in one case I have recognised the rare mineral minium (Red oxide of lead).

In almost every case the granite, in contact with this oxidised vein matter, has been partially decomposed, the felspar has been converted into kaolin, and the whole rock has been stained and blackened by the oxides of manganese and iron. It frequently contains, however, sufficient silver (as chloride of silver), to yield a profit in working.

NOTE ON THE ARTIFICIAL FORMATION OF DIOXIDE OF COPPER, "CUPRITE."

BY R. PEARCE, JUNE., F.G.S.

This compound (a specimen of which I send) was found attached to the sides of a wooden tank, in which dilute sulphate of copper solution had been kept—undisturbed, and at an even temperature of about 180° Fah. for one year. When viewed under the microscope by transmitted light, the crystals shew the beautiful ruby-red colour, so characteristic of the natural mineral, and the same modifications of crystals may also be seen, Cube, with faces of the octahedron, and rhombic dodecahedron.

I cannot account for their formation, unless we suppose that the reducing action of the juices of the wood effected this change on sulphate of copper. It is not improbable that a similar change takes place in copper lodes, where cuprite is commonly found in gossans near the surface, the action of the water, containing humous matter in solution, might have the effect of reducing solutions of sulphate of copper into dioxide of copper.

ON THE REMAINS OF AN ANCIENT CRAZING MILL, IN THE
PARISH OF CONSTANTINE.

By JAMES BRYANT.

On Retallack Farm, the property of Lord Clinton, are the ruins of an old Mill, which are called by some persons, "The Old Jews' House," and it is said that some hollow basin-shaped stones lying about, were used as moulds for pouring melted tin into. Whether tin was ever smelted there is doubtful, but there can be little doubt that tin-stone was ground there between mill-stones, as described in *Carew's Survey of Cornwall*, where these buildings are called Crazing Mills.

Parts of the walls of a house, measuring 20 feet by 13 feet, are still standing. In the gable wall there is a rectangular opening 2 feet high, by 1 foot 9 inches wide, where the axle of a water-wheel passed through, the top and bottom stones of the opening being old worn-out mill-stones, which must have been used in another mill, previous to the present walls having been built. Two blocks of granite, one on each side of the axle opening in the same end wall, have in them rectangular grooves 2 feet 5 inches long, $3\frac{1}{2}$ inches wide, and 3 inches deep, which are also said to have been old "Tin Moulds," but I consider with Mr. Thomas Clark (who accompanied me on my last visit) that the grooves were used to hold supports for the machinery of the mill. At the opposite end of the house, there is a dome-shaped oven built, with granite, the bottom of which is an old mill-stone, and although it is said to have been used for calcining tinstuff, it was most probably used for domestic purposes.

Within and without the old walls, are the parts of several mill stones, all of which are more or less grooved on the face in a circular direction. They are of granite, and were from $3\frac{1}{2}$ to 4 feet in diameter, the upper stones being concave, varying in depth from 1 to 4 inches, from the edges to the centre, and the under stones are convex. Some of the stones have also been used as both upper and under mill-stones. A part of an upper mill-

stone that was 4 feet in diameter, and 9 inches thick on the edge, has groovings on the face deeply indented. Another part of a bottom mill-stone that was 4 feet in diameter, and is a little convex, has also the groovings strongly marked.

The stones with basin-shaped hollows are similar to many that have been found in different parts of Cornwall and Devonshire, and have been described by Mr. Cunnack, Mr. Worth, and others, as having been used for pounding tin-stone. One of these stones, however, is different from any that I have before seen described. It is a rough block of granite 4 feet long, 14 inches wide, and 14 inches deep. On each of its sides, very nearly in a line, there are four basin-shaped hollows, from 7 to 9 inches in diameter on the surface (being a little elongated across the block), and from 2 to 5 inches deep. From the regularity of the hollows, it is very probable the "Pounders" were worked by machinery similar to the stamps of the present day, and when one side of the block was worn, another side was used.

Besides those mentioned, there are other stones that would appear to have been used in pulverising sand by hand.

The remains I have attempted to describe, are well worth a visit by any person interested in the works of the early tin miners. That the stones were used for pulverising tin-ore, I consider there is very little doubt. When I first visited the place 27 years ago, there was something like an old buddle, the sides and bottom of which were made with rough stones, and as far as I can remember, it was about two feet in width. In scraping between the stones in the bottom, some sand was found that yielded a good van of tin.

BISHOP TRELAWNY.

“ Shall Trelawny die. P ”

The members of the Royal Institution of Cornwall on visiting (in 1881) Trelawne, the seat of Sir John Trelawny, Bart., and (in 1882) Pelynt Church, the burial place of the celebrated Bishop Trelawny and many of his ancestors, were shown some interesting memorials of the deceased prelate.

The owner of the mansion, although absent, caused the representatives of the Society to be hospitably entertained, and they were enabled to inspect the chapel, the various apartments, the series of family portraits, &c. In the paintings, the Bishop appears clad in the robes of the Order of the Garter.

To remind the company of the most notable events in Bishop Trelawny's life, the Rev. W. Iago read the following account, in the great hall :—

* * * * *

Of all the Celtic names in Cornwall compounded of the proverbial Tre, Pol, or Pen, not one is better known than that which distinguishes the old Cornish family here so worthily represented. Their designation “ de Trelawny,” is said to have been derived from their ancient residence, “ Trelawny,” in the parish of Altarnon : since quitting which place their name has been identified with their estate, “ Trelawne,” in the parish of Pelynt—acquired in the reign of Queen Elizabeth.

The estimation in which the Trelawnys have long been held is apparent from many past incidents. It will be sufficient here to mention only a few, and those will, doubtless, be familiar to all present, who have read the histories of their county.

It is related that beneath the figure of King Henry V, formerly on a gateway at Launceston, these lines testified to that monarch's regard for a brave warrior—

“ Hee that will doe ought for mee,
Let him love well Sir John Tirlawnee.”

Moreover, there was an ancient saying in Cornwall, to this effect,—

“ A Godolphin was never known to want wit,
A Trelawny courage,
Or a Granville loyalty.”

Next we come to that very popular refrain which has been sung, with some variations,—

“ Shall Trelawny die ?—

Then 20,000 Cornish men shall know the reason why!”

These words had reference to the Bishop, concerning whom much that is interesting is known. The particulars of his career may be thus summarised.

The Right Reverend Sir Jonathan Trelawny, D.D., 3rd Baronet, held successively the Bishoprics of Bristol, Exeter, and Winchester—becoming, by virtue of the last-named appointment, Prelate of the Order of the Garter. He was born at Trelawne, 24 March, 1650, and married in 1684, at Egg-Buckland, Rebecca Hele, of Bascombe, Devon.

Besides the portraits of himself and of his wife and other relatives at Trelawne, there is a painting of him, by Kneller, in the Hall of Christ Church, Oxford,—so Messrs. Boase & Courtney state,—his arms,* they tell us, are engraven on the south quarter of Tom Gateway, and, they add, he gave to the same College the statue† of Cardinal Wolsey, which is over the gateway leading to the Hall. Bishop Trelawny rebuilt the Chapel of Trelawne. It has recently been again re-constructed, but carved figures of angels which were in the older fabric remain. At different times he held a great many ecclesiastical appointments, and whilst his lordship presided over the See of Exeter, he was Dean of Burian, in Cornwall. Several documents signed by him, and officially sealed, are now preserved in the registry at Bodmin. He died at the Palace, Chelsea, 19th July, 1721, and was buried on the 10th of August, in Pelynt Church, Cornwall, where a pastoral staff, or episcopal crook of gilded wood is still to be seen, and where, also, his name appears on the altar vessels and on one of the bells.

The baronetcy passed to his eldest son. His second son became Governor of Jamaica. The present baronet is descended from the Bishop's brother.

* The Arms borne by the Trelawny family are given in two forms, viz: “Argent a chevron sable,” and “Argent a chevron sable between three oak leaves proper.” With these, many other Arms have appeared, impaled and quartered. The Trelawny crest is “A Wolf passant proper.”

† Its Latin inscription is quoted in the “History of Cornwall,” (Lake, Truro), Vol. IV, p. 38.



J. EXON

Scia tis me
Jonathan Epūm
proct Doranahum
Srto Borian ats
Burian [¶] Dodisse [¶]

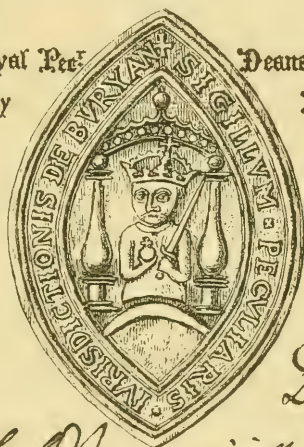
Dat apud Frelawne
Drimo octavo die mensis Januarij
Anno dñi 1689

Old Seal of the Royal Pec'
Officially used by

Deanery of St. Burian &c
Bp Grelawny.

(Letters irregularly

placed as shewn.)



[1691]

J. EXON

Datum sub
sigillo peculiaris
Jurisdictionis
de Burian

[1692.]

J. EXON

(DRAWN IN FACSIMILE. W. TAGG. B.A.)

Seals and Signatures of Bishop Grelawny, 1689-91-92.
as Dean of Burian, Cornwall &c

(Only the Signatures of the Documents are in the Bishop's handwriting.)

The episode which caused the name of Bishop Trelawny to be celebrated in song arose from the following circumstances.

Great events in the history of the country had been following each other rapidly. Under the Tudor monarchs the papal supremacy in England had been overthrown, revived, and again suppressed. The Stuarts reigned. The Great Rebellion had raged to its close. The King had been put to death, and the Protector had died. Monarchy had been restored, and James II having succeeded his brother, was king. In him the Pope's party were placing their hopes, and were consequently exerting all their influence to induce His Majesty to restore them to power.

The country at large viewed the king's conduct with dismay. The Archbishops, Bishops, and Clergy well understood the tendency of the Court, and the spirit of the time. Many accordingly nerved themselves to withstand, at all hazards, any measures which the King might introduce, of an illegal or subversive character. Bishop Trelawny was one of those bold but truly loyal subjects.

King James did what they feared. He called upon all the English clergy to promulgate what Scotland had already received—a decree favourable to the ultimate restoration of Roman influence.

Whatever might be the terms in which it was couched, its drift was plain. The indulgence was ostensibly for the relief of various sects of dissenters. It was called a "Declaration for liberty of conscience." It was somewhat lengthy, but its substance may be thus expressed—as may be gathered from Rapin's record of it. "His Majesty thought fit by his sovereign authority and absolute power to grant toleration to Presbyterians, Quakers, and Roman Catholics,—suspending, stopping, and disabling all laws or acts of parliament, made or executed against Roman Catholic subjects, so that they should in all things, without any penalties, be free to enjoy all offices, benefices, &c., which the king might think proper to bestow upon them,—all oaths of allegiance, &c., being discharged." Some words calculated to conciliate the prelates were prefaced, and others of a similar kind were added in conclusion. The king ordered that this Royal Indulgence should be read in all churches and chapels, at the time of divine service.

The watchfulness of Trelawny and others was aroused. Some of the bishops and clergy obeyed the injunction without questioning its legality—others took a medium course. One minister before he began to read it, told his flock that he could not disobey the order to read it, but there was no order binding them to hear it. In most cases it happened similarly, that where a clergyman proceeded to read it, the congregation immediately left the church. Only a few of the bishops and clergy obeyed the order at all. The conduct of the chief opposers is thus described :—When the king issued his order, several bishops who happened to be in London assembled at the Archbishop's Palace, on the 18th of May, 1688, to consult. They were Sancroft, Archbishop of Canterbury, and the following six Bishops; Lloyd (St. Asaph), Kenn (Bath and Wells), Turner (Ely), Lake (Chichester), White (Peterborough), and the Cornishman Trelawny (Bristol).

Their right course, they considered, would be—not to stir up rebellion, but respectfully to entreat the king to withdraw what they regarded as his illegal and unconstitutional command—neither the Parliament, nor Convocation having given their sanction to the measure. At the same time they expressed their inability, on legal and conscientious grounds, to yield obedience to it. Thus resolved, they crossed the Thames, from Lambeth, and held a confidential interview with the king, presenting to him their petition which ran thus :—

TO THE KING'S MOST EXCELLENT MAJESTY.

The Humble Petition of William, Archbishop of Canterbury, and divers of the Suffragan Bishops of that Province present with him, on behalf of themselves and others of their absent brethren, and of the inferior Clergy of their respective Dioceses, Humbly Showeth that their remonstrance proceeds not from any want of duty or loyalty, nor from any want of tenderness to Dissenters, they being willing to obey the constituted authority of the King, in conjunction with the Parliament and Convocation, but with respect to the King's illegal Indulgence, they could not in prudence, honor, or conscience, make themselves a party to it; they, therefore, most humbly besought His Majesty not to insist upon their publicly distributing and reading it.

King James, it is stated, was surprised and incensed. "I have heard of this before," he said, angrily, "but I did not expect it from the Church of England, especially from some of you. If I change my mind you shall hear from me, if not, I expect to be obeyed." The king made some mention of the word "rebellion," whereat Bishop Trelawny was deeply affected, and fell on his knees, exclaiming, "Rebellion, Sir! I beseech your majesty do

not say so hard a thing of us, for God's sake ! Do not believe we are, or can be guilty of it ! It is impossible for me or my family to be guilty of rebellion ! Your majesty cannot but remember that you sent me to quell Monmouth's Rebellion, and I am as ready to do what I can to quell another. We will do our duty to your Majesty to the utmost, in everything that does not interfere with our duty to God."

The writer of the Survey of Cornwall,* quotes these words from the collection of manuscripts possessed by the family,—(which documents, he adds, are so numerous that the mere abstracts of them fill two folio volumes).

The bishops having replied to the king "We resign ourselves to the Will of God," withdrew. King James and his Council were perplexed. The seven protesting prelates were summoned to appear again on the 8th of June.

They were legally advised that they were in danger, and the law did not require them to admit anything that would render them liable to punishment.

On their appearing, they were asked by the king whether they owned their Petition, and whether the signatures were really theirs. They bowed, but gave no answer.

His majesty concluded that they were trying to avoid placing themselves within the reach of the law, so he told them that if they would admit it, upon his royal word not a hair of their heads should be touched. Then they acknowledged their signatures, vindicating their actions. They were ordered to retire. On being called in again, they were surprised to find that the king had vanished from the Council, and the notorious Judge Jefferies, the Chancellor, was in the chair !

He called upon the seven ecclesiastics to recant, and to withdraw their petition. They remained firm. The Chancellor, treating them roughly, then announced the decision of the council. He committed them to be imprisoned in the Tower.

It was feared by the king and his advisers that to send them through the streets of London would cause a tumult, so they had them privately conveyed by water. But the people heard of it, and flocked to the river. On their knees they invoked the

* C. S. Gilbert, Vol. 1, p. 552. See also Vol. II, p. 916.

Bishops' blessing,—some of them advancing into the water, and with loud expressions of approval they extolled their courage.

When the prisoners arrived at the Tower, the soldiers knelt and behaved in the same manner towards them.

The king was greatly mortified,—and some of his council urged him to extremities. Two days afterwards the restless country heard of a real or pretended Prince of Wales. The king's policy and power were the more dreaded. The Cornish people were informed of Trelawny's imprisonment. Macaulay states that amongst this fierce, bold, athletic race, a strong provincial feeling arose. All over the county the peasants chanted a ballad, of which the burden was "Shall Trelawny die? then thirty thousand Cornish boys will know the reason why?" and the miners from their caves re-echoed, "—thirty thousand *underground* will know the reason why!!!"

After a week's incarceration, the seven bishops were released for a brief period. A fortnight later, on the 29th of June, they were brought to trial in Westminster Hall. Counsel pleaded their justification, their right to petition the king, and urged that they were neither guilty of treason, nor of publishing any seditious libel.

Allybone, one of the judges, a Roman Catholic, urged their condemnation. The Bench disagreed. The jury sat up all night, and next day brought in their verdict acquitting the accused.

Shouts of joy were immediately heard, and were continued for several hours through Westminster and London.

The king had gone to the army on Hounslow Heath, and was dining in the tent of Earl Feversham. Suddenly the troops raised a great acclamation. His majesty alarmed, sent out Lord Feversham to ascertain the cause of the tumult. He returned with the remark, "It was nothing but the shouts of the soldiers upon the news of the bishops being acquitted." "Do you call that nothing," said the king, "but so much the worse for them."

However, in spite of the king's wrath and commands, there were public rejoicings, the whole city was illuminated, bonfires were lighted, and throughout the whole country as the news spread, intense satisfaction prevailed.

The Cornishmen, then, had no need to attack London's stronghold, for Bishop Trelawny was free.

The king dismissed some of the judges. Bishop Trelawny was displaced by the king's "quo warranto" from being a burgess of Liskeard, yet he was appointed to the See of Exeter. Fresh measures against the Bishops were contemplated, but the country had been sufficiently aroused to the danger of the king's courses.

Revolution had come !

In that same year James fled from the throne. The Chancellor (Chief Justice Jefferies), having suffered violence at the hands of the populace, died.

William and Mary accepted the sovereignty, and were crowned in the following year.

Bishop Trelawny's name will not be forgotten. The old ballad concerning his arrest has been partially preserved. Its very stirring air, or tune, has been published, and is often heard. Cornwall's Poet, the late Rev. R. S. Hawker, vicar of Morwenstow, wrote a new version of the words, to suit the few lines which were still remembered. He entitled it "The Song of the Western Men." His verses are so well-known that they do not require full quotation here. They commence thus :—

"A good sword and a trusty hand,
A merry heart and true,
King James's men shall understand
What Cornish lads can do."

Then, after declaring how a rescue of the brave bishop shall be attempted, the ballad concludes with the chorus :—

"Trelawny he's in keep and hold,
Trelawny he may die,
But here's twenty thousand Cornish bold,
Will know the reason why !"

Mr. Davies Gilbert, Sir Walter Scott, Lord Macaulay, and Dickens, referred in terms of eulogy to Hawker's lines, mistaking them for the original ballad. Its actual authorship was subsequently explained and acknowledged.*

The rival claims of the Anglican and Roman branches of the Church, which were the cause of such a contest in the lifetime of Bishop Trelawny, were not then settled, once for all, as far as his ancestral home was concerned, for at different times since

* See Hawker's "Cornish Ballads and other Poems," page 2, (note).

his day the chapel of Trelawne has been used for both forms of service.

An abundance of most interesting information relating to Bishop Trelawny and those connected with him, exists not only in the county and other histories, but more especially in the pages of the *Bibliotheca Cornubiensis*, and in Col. Vivian's new book on the Heralds' Visitations of Cornwall.

The Annual Excursion, 1882.

Two autumn days this year were pleasantly occupied by the members of the Royal Institution of Cornwall, and their friends, in an excursion which commenced in the centre of the county, and extended to both its shores.

The region selected was found to be very picturesque, embracing :—Polperro, on the south coast, receiving within its rocky chasm the waters of the English Channel; Bodmin, the county town, lying high amongst the hills; Tintagel and Boscastle, on the north coast, with beetling headlands frowning over the waves of the Atlantic. These were the turning points which were visited, besides other places of note situate between them, viz :—Lostwithiel with Restormel Castle, Delaboul Quarries, Camelford, &c., &c.

Much of the ground was new to the travellers, although the Tintagel district had been visited in 1870, and Lostwithiel in 1874, during previous excursions* of the Institution.

Notwithstanding a threatening barometer, fine weather prevailed, except during a brief interval. The journeys were performed, as usual, in carriages, omnibusses, and wagonettes. The total distance was very considerable—but, as it was known beforehand that this would be the case, the necessity for moving on with exact punctuality was recognised, and it was agreed that promptitude should be strictly observed.

Several members of the Royal Cornwall Polytechnic Society, who were celebrating the Jubilee of that useful Institution, joined the excursion—and altogether from 60 to 70 ladies and gentlemen were present each day.

On the first day, September 11th, the procession of vehicles, having taken up the Bodmin contingent, left Sandoe's Royal Hotel, at 7 a.m., for Lostwithiel Station,—the “rendezvous,”—in time to meet the early up and down trains, which brought

* Royal Institution of Cornwall Journals and Reports, *Vol. III*, p. xxxi, (No. xii). *Vol. V*, p. 138.

the other members of the expedition from Plymouth, Liskeard, Truro, Falmouth, Helston, &c.

All had assembled before 9 a.m., and were conducted across Lostwithiel Bridge, to a roadside hotel, where a morning tea was provided.

The carriages were then made ready for the start. The first contained the President and Ex-President,—the Earl of Mount Edgcumbe, Lord Lieutenant of Cornwall, and the Lord Bishop of the Diocese,—with their respective sons, Lord Valletort and Mr. Benson. They were accompanied by the honorary local secretary for East Cornwall, the Rev. W. Jago, who had previously inspected the route, and who acted as guide throughout.

Mr. H. M. Whitley, F.G.S., one of the secretaries, was unavoidably absent, but his colleague, Major Parkyn, attended and rendered efficient service. Other members of the executive council, Dr. Jago, F.R.S., and Mr. Robert Tweedy, were also of the party.

Polperro was the destination. Passing up the hill on the St. Winnow side of the river, the Cornwall House of Mercy was noticed. The carriages, according to the programme, were to have proceeded by way of Fairy Cross, so that a large barrow might be examined, but the road through Dawna being unsuitable for wagonettes, a better course was adopted, and no attempt was made to approach the tumuli on the Downs.* A distant view of some of them was afterwards obtained, and their grand proportions were seen.

Boconnoc Park, of which further mention will presently be made, was entered by the nearest lodge-gate. Its noble extent and sylvan beauties were greatly admired, and the long drive beneath the stately trees was much enjoyed. Many deer were observed. Time did not permit of a halt, and Couch's Mill, with its picturesque buildings and sparkling streams, was passed. After crossing the little bridge at Trebant Water, the Giant's Hedge was penetrated, and the neat village of Lanreath was reached.

At Lanreath Church, the visitors, on alighting, were courteously welcomed by the Rector, the Rev. Richard Buller. The

* Bronze Celts have been found in these burial mounds, one shaped like an axe, resembling some found in Ireland.

Norman font and mediæval rood-screen attracted attention. The lower panels of the screen display in gold and colours ancient worthies connected with church history. Some of the figures are said to represent Saints Gregory, Ambrose, Jerome, and Augustine, St. Elizabeth of Hungary, Saints Barbara and Catherine.

Some time ago, a person employed to clean the woodwork was industriously proceeding to efface the series of paintings. Many of them were destroyed and had it not been for Mr. Buller's arrival, the few that now remain would also have disappeared.

The carvings on pulpit and bench-ends, and the monumental memorials are worthy of inspection. The wooden figures, &c., on a Grylls tomb, of the 17th century, are remarkable and in good preservation. Armorial bearings of Grylls, and of Buller, occur in several parts of the church. Nothing was seen to remind the pilgrim of William of Worcester's statement that St. Juncus lies buried within its precincts.

After thanking the rector, all had to start speedily, but some of the company contrived meanwhile to snatch a hasty glance at Court,† an interesting old residence, formerly the seat of the Grylls family. Some old oak carving in the house is dated 1612.

Very soon the carriages were stopped, for a few minutes, when the cross-roads east of the church, had been reached :—for the Giant's Hedge is there seen to advantage, the road being contiguous to it. Furze and brambles cover the ancient mound, which, from the junction of the roads, tends south-east across the fields towards Looe. The road diverges more to the south. MacLauchlan has well described the great “risbank.”§

Pelynt was next arrived at. The old church, said to be the burial place of St. Mancus, the Bishop, is being restored. The vicar, the Rev. John Buller Kitson, exhibited the lofty pastoral staff, which was in some way associated with Jonathan Trelawny,|| Bishop of Winchester, who was buried in

† At Court Barton, glass vessels have been found, and a fragment of Renaissance Earthenware—the latter adorned with groups of persons and part of an Inscription, —“.....RI : GBV : IVDIT : STR : D : PR : DI : [S (?)].....” The details are in Rev. W. Iago's possession.

§ “A giant having nothing to do, made a great hedge from Lerrin to Looe.” See MacLauchlan's Survey, R. I. of C. Report, 1849-50.

|| Trelawne, the Bishop's residence, containing his portrait, &c., was visited during the Excursion of 1881.

the church in 1721. The Bishop of Truro, after examining the relic, surmised that it was made merely to be carried at Bishop Trelawny's funeral. The staff terminates in a crook. It is of slender make, somewhat roughly carved in wood, with foliations, and the whole is gilded. Various Trelawny memorials exist in the church, and there are also quaint old tombs of Achym, Buller, and others. Before leaving, a brief account was given by the Rev. W. Iago, of what is recorded of the history of Lanreath and Pelynt, and allusion was made to the great camps and other antiquities that lay in the vicinity of the route.

Proceeding *viâ* the Barcelona Road, where Mr. Laughrin joined the party, a drive along a steep hill-side subsequently brought Polperro into view. Descending into the gorge, the houses were found extending through the valley, and nestling in the rocky gap leading to the sea. Flags, in honour of the visit, had been hoisted, and were hung across the streets, as signs of welcome, the inhabitants doing their utmost to receive their guests in a becoming manner.

Polperro, when not disturbed from its usual quiet, presents a striking appearance of calm industry. Contrasting well with the brown rocks and fishing nets, blue is the prevailing colour. Not only does it pervade sea and sky, but the garb of the men and boys is blue also—tho' of a deeper hue—for nearly all of them are clad in jerseys. The women and girls stand at the doors of their cottages, or in groups with their neighbours, patiently knitting such garments. As they chat with each other their quickly moving needles tick like watches, and their fingers are stained with the dark-blue wool. But all such work seemed to be laid aside for the time. The approaching line of expected carriages through the narrow streets, had created an unwonted sensation. Mr. and Mrs. Rickwood, of the "Ship" hotel, had made ready the dinner, as requested, and soon found all their energies taxed to satisfy their hungry guests. All the dining apartments were quickly filled. In the principal room the Earl of Mount Edgcumbe presided, supported on his right by the Bishop. At the close of the repast the noble President made some remarks suited to the occasion, and alluded to the fact that even in such a secluded spot as Polperro, an eminent member of the Royal Institution of Cornwall had attained to literary fame.

The late Mr. Jonathan Couch, F.L.S., the learned ichthyologist, had there become an authority, acknowledged by all who understood his favourite study. His writings on Natural History, Geology, Archæology, and other subjects were well known, and his book—edited by his son—relating to his native place, must be familiar to many present. His lordship then read the expression of regret at his loss, which was published by the Council¶ at the time of his decease in 1870. In conclusion, it was noted that Polperro had taken steps, likely to prove useful, in honour of his name and his abode.

A visit to the harbour was then made. A few stones, *in situ* on the western height, still mark the spot whereon the old Chapel of St. Peter formerly stood: appropriate dedication, suggestive both of rocks and fishermen, and chosen, perhaps, on that very account. Whether the name of ** Polperro is older than the foundation of the sacred edifice, or whether it takes its name therefrom, is an open question. It seems likely, however, that its meaning is either “the stony haven” or pool, or “St. Peter’s haven.”

The stone quay, or pier, built partly across the harbour, shows by its injuries how terrible is the force of a rough sea when it surges between the rocky peaks.

Under Mr. Laughrin’s guidance, the locality of the fossil beds on the east side of the harbour was indicated. Excellent specimens of the fossils, and of many rare fishes, &c., were seen at his house. Little time could be devoted to hearing accounts of the fishery, of smuggling in days of yore, or of Jeffery the sailor, nor could Willy Woolcock’s cavernous hole be explored. The hour for the return journey had come. On leaving Polperro, cheers were duly exchanged with the residents, and thanks were expressed.

An uninterrupted drive of many miles was then commenced. Boconnoc Park was again entered, and a new course being kept,

¶ R. I. of C. Journal, Vol. III, following page 224.

** In 1392, the chapel of St. Peter de “Porthpyre” is mentioned. In 1418, “Porpere,” and still later “Polpyr,” “Poulperrhe,” “Polpera,” “Polperro.” Compare with these forms the French Porte and Pierre, (Peter-port and St. Pierre are not far distant across the sea), and also the Cornish Porth, Pol, Pedyr, or Peder, which means Haven, Pool, Peter, all suitably descriptive of the harbour of Polperro.

fresh points of interest were seen in passing :—including the House and the Obelisk. The church is near the house, and ancient crosses are erected in the grounds.

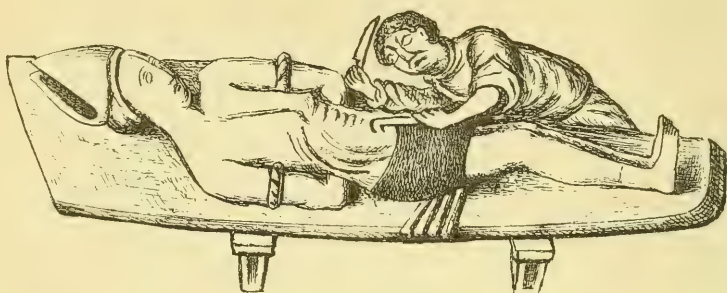
Boconnoc, now the seat of Capt. Fortescue, is mentioned in early documents, and it abounds with historical associations. Traces of the military operations of the Civil War yet appear, and records are preserved describing the occupation of the house at different times by the contending parties, and giving details of the fighting carried on. Between the square entrenchment (dating from that period), in which the more recent obelisk now stands, and Braddock Church, an important battle was fought by Sir Ralph Hopton, for the king, on the 19th of January, 1643-4. Sir Beville Grenville graphically described it in a letter to Grace, his lady. He endorsed his missive—probably to ensure its safely reaching her hands—"The messenger is paid, yet give him a shilling more." Concluding his account of the rout of the enemy, and the capture of many of them, his words are "All our Cornish grandees were present at the battle, with the Scotch General Ruthven, the Somerset Colonels, and the Horse Captains Pim and Thomson, and but for their horses' speed had been all in our hands."

Many well-known families, in succession, were possessors of Boconnoc. Thomas Pitt, of Dorchester, Esquire, Governor of Fort St. George, Madras, direct ancestor of the Earls of Londonderry and Chatham, and of the Lords Camelford, bought for £20,000 the famous jewel, since known as the Pitt diamond, and sold the same, in 1717, for £135,000. For about half that sum he bought, of the last Lord Mohun, the fine property of Boconnoc. His great grandson, Lord Camelford, built the obelisk, which is 123 feet high, in memory of Sir Richard Lyttleton, his maternal uncle, in 1771.

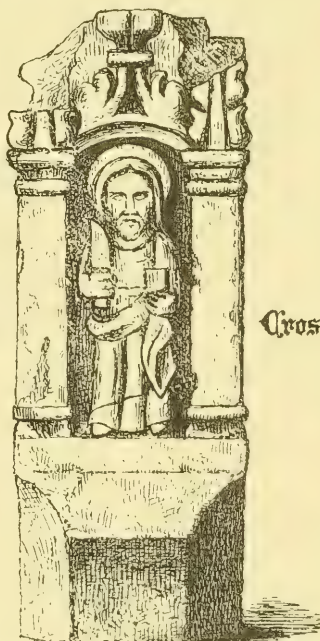
Lostwithiel, the rendezvous of the morning, was the halting place—a borough town, considerably benefitted by the Earl of Mount Edgecumbe's ancestors.

The vicar, the Rev. H. W. Taylor, and the mayor, Dr. Row, kindly afforded facilities for viewing everything noteworthy in their charge.

The church, dedicated to St. Bartholomew, is of the early English and decorated styles. It has piers without capitals supporting the arcades, a spire ornamented with open-work, an



✠ Alabaster in the Church. Playing of St Bartholomew.



Side-panel of the old

Cross, in Churchyard.

St Bartholomew holding Playing knife and Book.

W. IAGO.

At Hosiwithiel. Figures of the Patron Saint ✠

ancient font on clustered supports, sculptured with a variety of curious figures, an alabaster carving of the flaying of the patron saint, the brass* of Tristram Curteys in armour, 1423, removed from the floor to the wall, old monuments of Kendall, Waite, &c., and many handsome modern memorials, including the carved pulpit and stained-glass windows. The Vicar exhibited the handsome altar vessels, and also a rubbing of an incised cross, found on the reverse of an armorial slab—showing that it was a palimpsest. The Rev. W. Iago, in a short address, directed attention to the objects to be chiefly observed, and spoke of the desecration of the church, the christening of a horse, as “Charles,” at the font, and the attempt made with fire and gunpowder to dislodge from the tower some refugees during the great rebellion. Beside the south porch, was seen the old Gothic Cross, restored to the churchyard by Mrs. Thomas Hext, of Trenarren, and lately erected with new base, shaft, and pinnacles, through the liberality of Miss M. F. Hext, of Lostwithiel.

At the town hall, the mayor showed the corporate seal, the silver oar, &c., and the portrait of Lord Mount Edgcumbe’s ancestor, the founder of the building,—Richard Edgcumbe, of Mount Edgcumbe, Esquire, formerly M.P. for Lostwithiel, created a Baron in 1742,—whose son George, Earl of Mount Edgcumbe (the present Earl’s great-grandfather), presented to Lostwithiel its Market House.

Restormel Castle proved eminently attractive and was fully explored—from the bottom of the dry moat and subterranean hollows, to the tops of the ivy-clad battlements. The guardroom, kitchen, banqueting hall, chapel, with its piscina, were all examined. The upper chamber in the south wall near the gate, with its narrow passage and prison-like prospect, appeared in striking contrast with those rooms which had windows commanding extensive and beautiful views. Wild imaginings were the result. The chief portion of the Castle is a circular Norman structure, now roofless. Documentary evidence proves that Edward, the Black Prince, resided in it.

The Bishop and some other members of the excursion were obliged to leave by train at this stage of the proceedings. The

* Figured in Dunkin’s *Monumental Brasses of Cornwall*,—plate IX.

President and the rest re-entered the carriages. Darkness coming on, it was impossible to view Lanhydrock, therefore the drive was continued by the main road. Bodmin was reached—and after high tea at the “Royal” hotel, the company crossed over to the Guildhall for the evening meeting.

The walls were covered with diagrams, rubbings, and drawings, by the Rev. W. Iago, illustrating the antiquities of Cornwall. Upon the tables were arranged the following :—

The ivory reliquary of St. Petrock (of 12th century work), the valuable maces of the corporation, the loving cup and other regalia, lent by the mayor, Col. Alms. Roman pottery, one piece stamped LESBIVS-F., Samian-ware, &c., found in the parish, and lent from the museum of the Literary Institute. A rough block of stone anciently used on several of its faces as a muller, and a shield of Flamank arms, quartered and impaled, lent by Mr. Dennis. Sculptured mullers and an illuminated scroll lent by Mr. Polsue, remains found in Temple church by Rev. J. R. Brown, also many other objects,—besides a Cornish Chough, views, maps, photographs, curious old books, &c.

The hall was divided longitudinally, so that the members of the excursion and the inhabitants of the town might equally have access to the front seats. There was a good attendance.

The Earl of Mount Edgcumbe presided, and in opening the proceedings, explained that it was the aim of the Council of the Royal Institution of Cornwall, that the Society’s operations and influence should not be confined to any one portion of the county, but that it should be worthy of its name. They wished most distinctly that it should not be considered merely a Truro Institution—altho’ its extensive museum, and its local habitation happened to be in that city. They had, therefore, this year, made Bodmin their centre, desiring to interest the people of Bodmin and of the whole county in their work. They hoped also to receive an accession of members from all parts of Cornwall. His Lordship then referred to the pleasant excursion which had just been made to the south.

The Rev. W. Iago, having been called upon, gave a summary of the day’s proceedings, first taking the opportunity as a Bodmin resident to welcome Lord Mount Edgcumbe, Lord Valletort, and the other visitors to Bodmin. He also compli-

mented the members of the Royal Cornwall Polytechnic Society, who had joined them, and explained that the Bishop and Dr. Barham would also have been present on the occasion had it not been the eve of a wedding in the family of the latter. It was, therefore, necessary for both to be in Truro, in readiness for the happy event of the coming morning, the Bishop having promised to officiate. He regretted their absence,—the Bishop possessed a pleasant power of throwing light on matters under investigation, and never spoke without being intelligible to all and instructive to many; Dr. Barham, moreover, was one of the prime movers of the expedition, and upon him had depended, in a great measure, its success. Describing the places visited, Mr. Iago gave some additional details as to events connected with them, and alluded to Mr. Stokes's poetry when speaking of the beautiful ruin of Restormel Castle.

The Rev. J. R. Brown next spoke on the subject of Temple Church, near Bodmin, narrating how he had found it a roofless ruin, except for a tarpaulin spread over part of it by his predecessor, and how he had been endeavouring to obtain a sufficient fund for rebuilding it. The patron, and others, including the noble chairman of the meeting, had given him their aid. The Rector of Blisland had restored to it the chalice, dated 1577, which formerly belonged to it, and he hoped very soon to be enabled to complete the church, and have it re-opened. He recounted its early history, stating that it was built by the Templars, eventually it fell into decay, and an ash tree, 40 feet high, grew up in the centre of the nave. When this was lately removed, it was discovered that its roots had penetrated a somewhat rudely constructed vault, and had grown around what had been the body of a man buried there. The skeleton enclosed by the roots was perfect. He therefore had the vault reconstructed and the remains re-interred. Mr. Silvanus Trevail, the architect, a member of the Royal Institution of Cornwall, had presented the plans for the work.

The Rev. W. Iago was then again called upon by the chairman, and in response explained the various antiquities exhibited, and the diagrams upon the walls. He remarked, with regard to the latter, that most of them related to Cornwall, but some were placed there for the sake of comparison, being representations of important relics in other parts of the kingdom,

which would be found to bear a similarity or striking dissimilarity in some point or other to those of this western region.

The rude earthworks, stone structures, and monuments of Cornwall, the early inscribed stones, ceramic, metallic, and other remains were described—also the curious kingly-figure of tin and lead, marked with Hebrew letters, found underground in Bodwen Moor, and now in Lord Robartes's possession, concerning the origin of which image so much doubt exists. The history of Bodmin was briefly traced from Celtic,* through mediæval and later times. The famous Bodmin Casket was shewn, which is regarded as the "ivory shell" or reliquary in which St. Petroc's bones were brought back from Brittany, A.D. 1177, after they had been taken away by Roger, one of the Bodmin canons. St. Petroc had died in Bodmin, A.D., 564.

The violent disputes between the Bodmin people and Prior Vivian, titular Bishop of Megara, in the 16th century, were mentioned, and the ancient prisons were described—diagrams being shown of one dungeon in Prior Vivian's country residence at Rialton, and of another, 30 feet deep, in St. Mawes Castle.

The Cornish Brasses, as was clearly shewn by the numerous rubbings, were of no great size. Specimens exhibited from other parts of the kingdom afforded a contrast in that respect. Representations of the three oldest in England were pointed out, viz : those of Sir John D'Aubernoun, 1277 (Surrey), Sir Roger de Trumpington (near Cambridge), and Sir John D'Aubernoun, jun., son of the first named. From the postures of the effigies, opportunity was taken to remark upon the fallacy of the cross-legged theory when held to be an invariable indication that the deceased had joined, or had wished to join, in the crusades : ladies being sometimes so represented, and some effigies of known crusaders not being in that position. A rubbing of the Goodryke brass (Ely), was interesting as

* A British circular earthwork, Castle Kernic, or Canyke, crowns the highest hill in the parish, 250 feet above the level of the sea. A Roman Camp at Tregeare, in which relics of the 1st century have been found, overlooks Nanstallon ford. The Beacon Hill, on which in old time signal fires were probably lighted, stands 515 feet above sea level, and commands an extensive view. On it is now a modern Obelisk, 144 feet high, in memory of General Gilbert. Bodmin contains the chief government and county establishments, and returns a member to Parliament.

showing the vested figure of a Post-Reformation Bishop—one who took part in the preparation of the present book of Common Prayer. Of Cornish brasses attention was specially called to those in the churches included in the excursion, commemorating Curteys at Loswithiel, and Kelly at Tintagel.

The 1st governor of Pendennis Castle should also be observed, the Cardinham priest girt with a sword, probably as a justice, and the Blisland priest whose brass was remarkable for lacking a stole. It was satisfactory to know that in Mr. Dunkin's book "The Monumental Brasses of Cornwall," now being issued, excellent plates of all known to exist in the county appear. Mr. Iago stated in conclusion that for access to many interesting documents in Bodmin he was indebted to the town clerk, Mr. Preston J. Wallis.

The Earl of Mount Edgcumbe, in closing the meeting, said his earnest desire was that their gatherings should prove generally useful, and should not end with the work of the day. When he visited such a place as Lostwithiel and its neighbourhood, associated with the Civil War, one thing which occurred to him was this:—It seemed a pity that someone did not take in hand some thorough and popularly written history of the stirring local events connected with that time. He also thought much had still to be done to satisfactorily elucidate many Cornish names. If such a thing as this last could be accomplished, he was not without hope that, in many instances, the present corrupt and barbarous spelling of the names of many places, would be rectified. About the church at Temple too, a great deal remained to be found out, especially with regard to the general characteristics of the Templars' churches and preceptories. His Lordship then moved a vote of thanks to Mr. Iago for his valuable lecture, and for the able assistance given him in promoting the success of the day's excursion.

Mr. H. M. Jeffery, F.R.S., seconded the motion, observing that Mr. Iago never spoke without instructing his hearers and making himself perfectly intelligible to all, as he himself had said of the Bishop.

The vote was passed with acclamation.

Mr. H. S. Stokes proposed a vote of thanks to Lord Mount Edgcumbe. On no occasion, he said, when his lordship was

needed in Cornwall or Devon was he found wanting. He knew how valuable his lordship's services were in one department, but they all thoroughly well knew how hearty he was in every good undertaking, what useful information he brought to bear upon it, and what energy and what thorough good heart. (Much applause.) A like compliment was tendered to Major Parkyn, hon. secretary, for his efficient superintendence of the arrangements.

The formal proceedings of the first day then ended, but many of the visitors remained to see the objects of interest exhibited in the Guildhall.

Rooms for the night were provided, both in private lodgings, and at the hotel, by Mr. Sandoe.

Next morning, September 12th, after an early breakfast, a start for the north was effected at 7 a.m.

The President and some other members of the party were obliged to return home, but new arrivals prevented any falling off in the numbers of the excursionists, as compared with the previous day.

The carriages were driven for a mile along the chief street of Bodmin, and on quitting the town, at the western end, passed the chapel, and the extensive buildings of the County Lunatic Asylum. On the way to Dunmere, one of the oldest and least bustling of English railways was crossed, namely:—that connecting Bodmin with Wadebridge and Wenford, opened in 1834.

No stop was made till after the village of Longstone (formerly the site of a menhir called "the Devil's whetstone") and the "Churchtown" of St. Teath had been passed. The carriages then drew up at the entrance of the great slate quarries, at Delabol.

Two of the directors of the Company, Mr. C. Bainbridge Rendle, of Liskeard, (a member of the Institution) and his brother, Mr. E. Russell Rendle, of Plymouth, with the ladies of their party, and the managers of the quarries, Messrs. Roberts and Hockaday, received the visitors, and conducted them through the works, explaining the different processes of raising

the stone from the enormous pit, and preparing it for use. The machinery of various kinds was seen vigorously at work, lifting and conveying, cutting and planing, splitting and sizing. Some very interesting fossils were also shewn. Afterwards the company were invited to partake of refreshments, and specially appreciated the kindness of their entertainers, after the cold ride of the morning.

The following concise account of the quarries was prepared by Mr. C. Bainbridge Rendle for the occasion :—

The old Delabole Slate Quarries, which have this day been visited by you—the members of the two learned societies, the Royal Institution of Cornwall and the Royal Cornwall Polytechnic Society—have an especial claim to interest the antiquary as being probably among the oldest slate quarries in Great Britain still in active operation, for while it is said that the quarries of Lord Penrhyn, in North Wales, were first worked in the time of Queen Elizabeth, there are many old mural tablets in the neighbouring churchyards, of honest Delabole slate dating back to an earlier period in the 16th century, and Carew, writing in the year 1602, of the Delabole roofing slate, describes it thus :—“ In substance thinnē, in colour faire, waight light, in lasting strong, and generally carrieth so good regard as (beside the supply for home provision), great store is yearly conveyed by shipping both to other parts of this realm and also beyond the seas into Brittannie and Netherland.” Borlase, writing in 1758 of the slate from these quarries, says : “ that for its lightness and enduring of weather it is generally preferred to any slates in Great Britain,” and describes the great quarry as at this time 300 yards long and 100 yards wide and 80 yards deep, observing “ that all the slate is carried with no small danger on men’s backs, which are guarded from the weight by a leather cushion.” This system of working was still in vogue in the early part of this century, until the improved haulage of a one-horse whim and windlass superseded this primitive mode, and this again gave place to steam power, which was introduced about forty-five years since.

In those days these quarries belonged to several owners, who worked their beds of slate rock as deeply as they were able, and as they worked out one part, filled it in with rubble, or

heaped it up around the headlands of their quarry as an ill-fated legacy to their successors, and the present company have had for many years this incubus of dead work to contend with, some evidence of which is still to be seen at the far end of the quarries.

Until the last few years the mode of working was to erect papet heads, or projecting wooden frames, on the cliff of the rock, supporting huge wooden cranes, and by means of iron chains passing over these, steam power hoisted up the slate rock and rubble from the pit below. Two papet heads of an improved character, worked with steel ropes instead of cumbrous iron chains, are still used; but the future developing of the quarries is to be seen at the far end, on the western side, where one steam engine hauls up an inclined plane, in trucks, the slate rock and rubble produced from four terraces or galleries. Of these the two upper galleries are taking off the tops or overburthen covering the slate bed, and also the deposited rubble left us by our predecessors, and will be met by corresponding galleries now being worked on the eastern side, thus surrounding the quarries, while the two lower galleries are commencing to work the permanent slate bed. When this system of galleries is fully developed to the bottom of the quarries, the slate production will be largely increased, as we are at present only producing slate from the top and bottom of our slate bed, and the gallery system will ensure greater safety to our men, and less risk of serious slides, or landslips.

The quarries and rubble heaps cover some twenty-five acres of land. The length of the quarry being on its western side about 1,300 feet, and the depth about 400 feet. At present about 420 hands are employed. In the past three years more than one million tons of slate rock and rubble have been taken out of the pit. The indications of the slate bed, at the far end, lead the company to expect that these quarries are still in their infancy, as a most productive vein is found underlying the quarries at their greatest depth.

Query.—Is the name* *De la Bole* of Norman French extraction, or is the local nomenclature *Dinabole* the most

* In reply to this query it is to be observed that the name is older than the Norman conquest. At that time it appears as "*Deliau*" compounded with "*Boll*." See further particulars in a final note appended to this excursion account.

correct one? As bearing on the latter a neighbouring farm is called Dinabroud.

Immense blocks and slabs of slate are used in some branches of the work, and roofing slates are cut into a variety of sizes—being distinguished in this respect from each other by the following titles:—queens, princesses, duchesses, marchionesses, countesses, viscountesses, ladies, small ladies, and doubles. There are also others called rags and scantle.

At Delabole, as elsewhere, were seen admirable Board School buildings, erected from the designs of Mr. Silvanus Trevail, who was present in one of the carriages.

On the way to Tintagel the new church was also observed, its architect being Mr. Hine, of Plymouth.

As the excursionists neared Tintagel, a grand prospect lay open to their view. Lundy Isle, in the Bristol Channel, appeared very distinctly, more than 30 miles away, and the bold headlands of North Cornwall, grimly towering above the azure sea. The village of Trevena was soon reached, and here an inspection of many interesting points commenced. King Arthur's name, like a magic spell, seems to surround everything in the place. It has been superstitiously held that Arthur did not really die, but dwells even now at Tintagel, under the appearance of a Cornish chough. Two choughs, tame ones, received the excursionists on their arrival at Trevena. One named Moses, the other Isaac,—although they are not both male birds. Moses addresses Isaac by name. Their black plumage is very handsome; their long bills and legs are of the colour of red sealing wax. They were at large but seemed quite fearless.

In front of the "Wharnccliffe" hotel, some ancient sculptured stones, brought from other localities, were examined. Mr. Walters, the proprietor, had kindly placed the most important stone in such a position as to facilitate an inspection of it on both sides. It was formerly at Trevillet, and is an inscribed cross. Blight engraved it in his work on Cornish Crosses,† without noticing the inscription. Sir John Maclean detected letters upon it, and the Rev. W. Iago deciphered them. On one side of the stone are the words "Matheus, Marcus, Lucas,

† Blight's Crosses in East Cornwall, p. 32.

Ioh'." On the opposite face "Ælnat ✠ fecit ha'e crucem p' anima su'." The letters are large and in the style of the 9th century.†

The party next proceeded to Tintagel Church. At the entrance of the churchyard is an old lychstone which is also inscribed with ancient characters, the reading of which has not yet been determined.

The Rev. Prebendary Kinsman, vicar, received all at the church, and pointed out its interesting construction, which he attributed to Saxon times—alterations having been made in the building at subsequent periods. The chapel on the north of the chancel, retains its ancient stone altar-slab incised with the usual crosses. Other curious remains were observed in the church, including the Norman doorways, the remarkable font, the brass of Joanna Kelly, c. 1430; several old slabs and an arched recess in the wall. On proceeding through the churchyard, towards the cliffs, the massive granite tomb of the late Mr. J. Douglas Cook, formerly editor of the "Saturday Review," was noticed.

Looking along the coast, the spectators could see in one direction Hartland Point, and in the other Trevoze Head, 40 miles distant from each other.

Tintagel Castle was next visited. According to tradition it was the birthplace of King Arthur. The fortifications on the mainland, and on the peninsula termed the "Island," crown the edges of terrific precipices. Landslips frequently occur, and in some places have carried down portions of the walls. One large mass of masonry is seen lying where it has fallen over.

Probably there was a British strong-hold here. The present masonry, which is of slate, seems to be of Norman, and later, construction; some parts, however, may be older than Norman times. In certain parts the walls are not bonded into each other. Remains of chambers are traceable, and a portion of a newel-staircase. The entrances are arched, and the walls have battlements and buttresses.

† Figured by W. Iago in Maclean's Trigg Minor, Vol, III, . Plate LVI.

|| The name is Celtic (old Cornish) and signifies "the impregnable fortress." See Williams's Cornu : Brit : Lexicon. It is sometimes written Dundagell. Dun, din, dinas, a hill, fortified height. Diogel or Dyowgel, safe, sure, secure.

In the Royal Institution Reports, plans of the castle have appeared, but they are inaccurate in some important particulars. The whole of the Castle buildings were carefully measured and mapped ‡ in 1877, by the Rev. W. Iago, for Sir John Maclean's work, relating to the district.

The chapel is now roofless. It stands upon the top of the Island. There are remains of Norman carving on stones found in it. A grave has been cut in the rock outside the north-east angle of the chancel, almost on the brink of the cliff. There are also other enclosures, and a well, on this peninsula. A cavern passes under the castle, penetrating the Island from sea to sea. "Cornish Diamonds" (quartz crystals) are found in the interstices of the slate rock.

Acknowledgements were expressed to the vicar, who is also the constable of the castle, for having kindly shewn the church, etc., and also for having, as an officer of the Duchy, caused the steep ascent to the castle on the island to be rendered less dangerous, in time for the visit.

At Mr. Radcliffe's in Trevena, a bell (about the size of a ship's bell) was shewn embossed with crucifixion and madonna groups, and with the bell-founder's name.

The excursion was then continued further to the north, passing through the old disfranchised borough of Bossinny and crossing the Rocky Valley.

Boscastle being duly reached, dinner was provided at the "Wellington" hotel. Whilst dinner was being concluded, Hawker's poetical version of the Forrabury legend of the "Silent Tower of Bottreaux," was read by Rev. W. Iago.

A hurried glance at the harbour followed, and then the company started to catch the homeward trains.

A stop of a few minutes only was made at Camelford.

Finally, Bodmin was once more reached. Its parish church (the largest in Cornwall), the tomb of Bishop Vivian, the Prior, and St. Thomas's ruined chantry, were examined. After tea at the "Royal" hotel, Mr. Rogers of Helston, addressed some pleasant remarks to the secretaries, who responded — Major Parkyn specially complimenting the ladies, whose presence had conduced so greatly to the enjoyment of both days.

‡ Trigg Minor III. Plates, LVII—LVIII.

NOTE ON THE NAME DELABOLE.

The name existed before the Norman conquest took place, therefore it probably consists of old Cornish words, Celtic terms, descriptive of the locality.

The ancient name was "Deliau" compounded with "Bol." The true spelling and signification of these expressions demand careful consideration.

The exchequer and Exeter Domesday books record that, in the time of King Edward, the confessor, Earl Moreton possessed (*inter alia*) two manors, Deliau and Deliou,—or Delioau and Delio. These the late Rev. J. Carne identified as Delabol and Delionuth, in St. Teath. Sir John Maclean confirms his view in treating of these manors in his History of Trigg Minor (vol. III., p. 120, etc.). Their names, or those connected with them, appear thus at different dates:—In 1066, Deliau, Delio, etc., Deliolboll or Delyouboll, Deliomure (maur-great). In 1337—90, Delyonewyth (newydh-new). In 1337—8, Brune had possessions in Deliolboll, Deliopoleyn, and Deliocarlebon. Subsequently the forms appear as Dellie, Dely, Dilly, Dela—, Denny, Dina—, etc.

In the Domesday descriptions of these manors, no mention occurs of any quarries. Domesday spelling may be misleading as to some places, but these names seem fairly given when the words found in other documents are compared with the Domesday return.

Mr. Borlase, in his "Age of the Saints" (R. I. C. Journal, No. XX, p. 80) suggests that Deliau may be connected with the dedication, which he thinks is expressed in the name of the adjoining parish. He translates Endellion as being Landelian, St. Delian's, St. Telian's, St. Tello's, and he notes Tonkin's conjecture that Duloe may have been named from the same saint.

But if a non-ecclesiastical explanation of Delio be preferred to Mr. Borlase's surmise just quoted, Cornish glossaries must be consulted. The late Rev. Dr. Bannister has not elucidated the point. The late Rev. R. Williams, however, in his Cornu-Britannic Lexicon has supplied the following words, some of which may possibly be found to bear upon the matter.

{	Cornish,	Tell (plural of Tol)—holes.
	"	Delly (a form of Telly)—to bore a hole.
	"	Delyow, or Dylyow (plural of Delen)—leaves of a tree.—Modern Welsh. giving also Dalenau—leaves of a book.
	"	Dol — a dell, or dale, a vale.
	"	Bal — a digging, or mine.
{	"	Bol, Pol, Poll,—a pit, hole, or pool; also clay, concrete, mud.
	"	Bolla,—a cup, or bowl.

If either of these words enters into the first part of the name. it must possess such a meaning as will suit all the terms Delio-maur, Delio-newyth, Delio-boll, etc., equally well.

It is very improbable that all these ranges of land were named from diggings or holes, and more likely that the slatiness of the country was regarded as their leading feature, or characteristic. Perhaps, then, Delyow (leaves) is the primary derivation—referring, it may be, not to vegetation but to the leaf-like layers, or flat flakes of the prevailing rock, in other words, to the laminations of the slate. If this be so, each Delio manor was, according to its name, a land of slates, and each district was separately distinguished by the termination given to its name. One being called "the great," another "the new," etc.

The suffix Bol, whether from Pol, Bolla, Boll, or Bal, seems to be of sufficiently plain meaning, namely:—the pit, the hollow, the hole or digging. It is attached only to that one of the Delio manors in which the chief quarrying has long (no one knows how long) been carried on. The slate having been carried merely on men's backs, and water having most likely accumulated in the pit, the excavation would not rapidly develop to any great depth. It may therefore have been worked from very early times indeed.

Delyow-boll, or Delabole, in that case would signify "the flakes-pit," *i.e.* "the slates-hole," or as it is now expressed, "the slate quarry."

The above remarks are hazarded by the Corresponding Secretary for East Cornwall.

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Serpell, S. ...	1	1	0	<i>Trelowarren</i> ...	1	1	0
Sharp, Ed., M.R.C.S ...	1	1	0	West, Wm., <i>St. Blazey</i> ...	1	1	0
Sheriff, J. D., <i>Truro</i> ...	1	1	0	Whitaker, Rev. Canon, M.A.,			
Smith, Right Hon. Sir Monta-				(<i>Cantab</i>) ...	1	1	0
<i>gue, London</i> ...	1	1	0	Whitley, N., <i>F.M.S.</i> ...	1	1	0
Smith, Lady, <i>Tremorvah</i> ...	1	1	0	Williams, Mrs., <i>Caerhays</i>			
Smith, W. Bickford, <i>Trevarno</i>	1	1	0	<i>Castle</i> ...	1	1	0
Spry, E. G., B.A. (<i>Oxon</i>) ...	1	1	0	Williams, Michael, <i>Gnaton</i>			
Stephens, Rev. T. S., M.A.				<i>Hall</i> ...	1	1	0
(<i>Oxon</i>), <i>St. Erme</i> ...	1	1	0	Willyams, A. C., <i>Bodrean</i> ...	1	1	0

Those marked * are Proprietors.

Other Subscribers.

	£	s.	d.		£	s.	d.
Barrett, C. ...	0	10	0	Paull, Mrs. J. R., <i>Bosvigo</i> ..	0	10	6
Carne, W. N., <i>Rosemundy</i> ...	0	10	0	Peter, Thurston C. ...	0	10	0
Carter, Rev. Prebendary ...	0	5	0	Pryor, Captain Richard...	0	10	0
Clark, T. ...	0	5	0	Snell, J. ...	0	10	0
Earthy, N. ...	0	5	0	Symons, R. ...	0	5	0
Ferris, T....	0	10	0	Tripp, C. U., <i>Burton-on-Trent</i>	0	10	0
Helps, J., 7, <i>Richmond Ter-</i>				Whitley, H. M., <i>F.G.S.</i> ...	0	10	0
<i>race</i> ...	0	10	0	Williams, Mrs. M. H., <i>Pen-</i>			
Henderson, J., <i>Newham</i> ...	0	10	0	<i>calenick</i> ...	0	5	0
Hedley, Miss ...	0	5	0				

Subscribers to Illustration Fund.

	£	s.	d.		£	s.	d.
Barham, C., M.D....	0	5	0	Nix, Arthur P. ...	0	5	0
Carew, W. H. P., <i>Antony</i> ...	0	5	0	St. Aubyn, Sir J. Bart.,			
Carus-Wilson, E.S., <i>Penmount</i>	0	5	0	M.P. ...	0	5	0
Coode, E., <i>Polapit-Tamar,</i>				Tremenheere, H. Seymour,			
<i>Launceston</i> ...	0	5	0	C.B., <i>London</i> ...	0	5	0
Gilbert, Hon. Mrs., <i>Trelissick</i>	0	5	0	Whitley, N., F.M.S. ...	0	5	0
Glencross, Rev. J., M.A.,				Whitley, H. M., F.G.S. ...	0	5	0
<i>Luxstowe, Liskeard</i> ...	0	5	0	Willyams, A. C., <i>Bodrean</i> ...	0	5	0
Jago, James, M.D., F.R.S. ..	0	5	0				

List of Special Donations for Payment of Debts.

	£	s.	d.		£	s.	d.
Truro, the Lord Bishop of ...	5	0	0	Nix, A. P. ...	1	1	0
Barham, Dr. ...	1	1	0	Norris, Mrs., <i>Rosecradock</i> ...	2	0	0
Carter, R. H. ...	1	1	0	Parkyn, Major ...	1	1	0
Doble, C. ...	1	0	0	Pearce, R., <i>Dolcoath</i> ...	1	0	0
Daubuz, J. C. ...	1	1	0	Pearce, R., jun., <i>Colorado</i> ...	20	0	0
Eddy, E., <i>Colorado</i> ...	5	5	0	Prideaux-Brune, C. G. ...	1	1	0
Enys, J. D. ...	1	0	0	Roe, Rev. R. J. ...	1	1	0
Francis, William ...	1	1	0	St. Germans, the Earl of ...	2	0	0
Fisher, Herbert, V. W. ...	2	2	0	Spry, E. G. ...	2	0	0
Fox, Miss, <i>Penjerrick</i> ...	1	0	0	Teague, W., <i>Treliske</i> ...	4	4	0
Fookes, Rev. W. ...	0	10	0	Tangye, R. & G., <i>Birmingham</i>	15	0	0
Glencross, Rev. James ...	2	10	0	Tregellas, W. H. ...	1	0	0
Hodge, Mrs., <i>Menhay</i> ...	5	0	0	Tweedy, R. ...	1	1	0
Hobhouse, Ven. Archdeacon ...	1	1	0	West, Rev. J. O. ...	1	1	0
Hogg, Sir J. McGarel, Bt, M.P.	3	3	0	Williams, Mrs., <i>Caerhays</i>			
Jago, Dr. ...	1	1	0	<i>Castle</i> ...	1	1	0
Kennerley, J. C. ...	1	1	0	Williams, H., <i>Colorado</i> ...	5	0	0
Moor, Rev. A. P. ...	1	0	0	Whitley, N. ..	1	1	0

The MUSEUM is open to Members and their families every day except Sundays, between the hours of Ten and Four o'clock during the winter, and between Nine and Six o'clock in the summer.

The Museum is open to the public, free of charge, on WEDNESDAYS, from Noon until dusk, during the winter months, and until Six o'clock in the summer months. On other days, an admission fee of sixpence is required.

An Annual Subscription of Five Shillings entitles the Subscribers to admission to the Museum on Mondays and Saturdays, and to attend all the Meetings of the Society.

A Subscription of Ten Shillings further entitles the subscriber to introduce to the Museum and Meetings all the *bona fide* resident members of the family.

A Subscription of One Guinea entitles the subscriber to all the publications issued by the Institution, to admission to the Museum, for himself and family on every day in the week, and to the Meetings of the Society; and to ten transferable tickets of admission to the Museum whenever open.

The "JOURNAL OF THE ROYAL INSTITUTION OF CORNWALL" will be forwarded free of charge to the Members subscribing One Guinea annually. To other subscribers to the Institution, it will be supplied on payment, in advance, of Five Shillings a year; or the several numbers may be obtained from the Curator, or from a bookseller, at Four Shillings each.

Royal Institution of Cornwall.

64TH ANNUAL GENERAL MEETING.

The Annual Meeting was held at the Rooms of the Institution, Truro, on November 30th, 1882. The President, the Earl of Mount Edgcumbe, in the chair. Amongst those present were; The Lord Bishop of Truro, Dr. Barham, F.M.S., R. H. Carter, Dr. Jago, F.R.S., Rev. W. Iago, Hamilton James, Rev. A. P. Moor, N. Whitley, Major Parkyn (*Sec*), Rev. A. H. Malan, A. R. Tomlinson, Capt. Bryant, T. A. Cragoe, J. J. Beringer, W. J. Criddle, T. Hawken, H. Martyn Jeffery, A. Paull, E. Spry, R. Symons, H. Tregellas, etc.

Dr. Barham read the Report of the Council, as follows:—

The history of the Institution during the past year, if it does not present many stirring events, fully maintains the average standard of interest. Thirteen ordinary members have been elected, and four subscribers of 5s. The death of Sir P. P. Smith has deprived this Institution of a friend of very old standing, always ready to lend it his personal and pecuniary support; in Lord Robartes, and Mr. J. R. Paull, we lose two other valued members; and the death of Mr. Freeth further calls on us to express our obligation for the numerous contributions to Cornish archæology which he gave to the public through this society. The Rev. Carey Dickinson, who joined our body soon after he came to Truro, and has given much interest to our proceedings, has been taken away from us very recently, and we share the general sorrow. The income of the year, amounting to £242 12s. 4d., was increased by the special donations of £61. The expenditure was £236 14s. 10d., including the balance due to the treasurer, £10 18s. 7d., and the account shews £5 17s. 6d. to our credit. The heavy charge for printing, £122 15s. 8d. in contrast with £25 under this head in the preceding year, indicates the appropriation, as well as

the great need of the special fund, the contributions to which were so general, and in several instances so handsome. Since the close of the financial year a heavy outlay has been incurred on outside repairs in plastering and painting, which could not be longer delayed. The exterior is not likely to cause further expense for some time to come, but the rooms within and the cases in the Museum are in great need of renovation. The admissions to the Museum during the year were as follows:—Admitted free, 2,126; by ticket, 115; by payment (6d.), 352. Total, 2,593, shewing some increase under each head. The charge for printing above referred to was of course exceptional, belonging, as it did, in great part to several preceding years. Still the cost of the *Journal* must at all times be considerable, even if the editor, as now, through the kindness of Mr. Michell Whitley, be unsalaried. But it ought to be borne in mind that this publication is the chief return made to the members generally for their subscription, and the principal vehicle by which we can add to existing knowledge on our particular subjects of inquiry. Judging from the experience of recent years, a sufficient supply of valuable and interesting papers for two yearly numbers may be counted on. To glance at those most recently issued:—the thanks of the institution are especially due to our veteran zoologist, Mr. Peach, for his painstaking and very interesting supplement to R. Q. Couch's monograph on our zoophytes published by us in 1844; and to The Rev. W. Iago we are greatly indebted for his account of Rustyn Barrow, and his communication on Cornish seals, still awaiting completion: and we owe to Mr. Michell Whitley an exhaustive memoir on the church goods of Cornwall at the time of the Reformation. The shorter notices, such as that on the Quethiock Cross, describe a class of local antiquities on which we are most desirous to invite research and descriptive communications for the journal. One of the means of usefulness which the Institution possesses is its library, now comprising, mainly through exchanges of publications with other societies, a good collection of scientific transactions, of much value to the local student, to whom the great libraries are but rarely available. It is also desirable that all the leading histories and other works of acknowledged merit concerning Cornwall should be found on

our shelves, if they are not on those of the County Library. As neither society could well afford to purchase duplicates, each of them may very well be the complement of the other. Pamphlets and original documents are especially appropriate here, and all donations of this kind, or of the books referred to, will be most welcome. No arrangement has yet been made for any course of scientific instruction here during the coming winter; but there is reason to hope that Mr. Beringer, the lecturer to the Miners' Association, and Mr. Collins's successor as county analyst, will be able to devote one day in the week to a class, with laboratory practice, in inorganic chemistry. Your council have always felt very strongly the importance of the means of education possessed by the Institution, and the duty of turning them to account as far as possible; and they believe that the members would gladly co-operate for this increase of facilities and accommodation for study. It may come to be considered whether such an extension may be obtained by purchase of the freehold between the Museum and Pydar Street; and building, by aid of grants from the Science and Art Department, as is now doing at Redruth, convenient rooms for practical teaching. The site referred to would afford ample space for well lit and ventilated laboratories at the basement, for apartments and cabinets for study and instruction on the first floor, and over all for an art gallery of noble dimensions lit from the roof. If a suggestion offered lately at Camborne, that the central position of Truro made it the most suitable place for a memorial to Trevithick, should meet with general approval, such an addition to our buildings, replacing by a handsome frontage on a main street, in close proximity to the Cathedral, the now concealed approaches to the Museum, would constitute an appropriate and conspicuous tribute to the increasing fame of that eminent Cornishman, whose bust already occupies a place of honour in this library. The meteorological registers have been kept by Mr. Newcombe with his usual care, and have been turned to still fuller account at home and in the United States. The summary of the results of the whole series of our record is passing through the press—slowly, indeed, from the editor's lack of leisure—and it will be issued as a separate part of the *Journal*. A number of letters of the Rev. Henry Martyn

having been offered to the Institution by his literary representative, Mr. Henry Martyn Jeffery, F.R.S., on condition of their being published by us, the Council decided on issuing them as a supplement to the *Journal*, considering that the exceptional eminence of this writer—especially as a native of Truro—justified some deviation from the usual exclusion of religious topics. Some of the original letters will be placed under glass in this room, and your council would suggest that they constitute the nucleus of a collection of the autographs of eminent Cornishmen, and that their portraits will be associated with their letters, with reciprocal enhancement of interest. Being assured that the members of this Institution would wish to promote, as far as their co-operation was available, the success of the jubilee of the Royal Cornwall Polytechnic Society, the Council fixed the time of the excursion so that it might constitute an integral part of that celebration, and further they selected for the two days' expedition localities on the opposite southern and northern shores of the middle of the county, the most varied in natural, scientific, and antiquarian characteristics. Bodmin, that ancient centre of civil and ecclesiastical Cornwall, was the pivot on which the movement turned, and our warmest thanks are due to the Rev. W. Iago for the arrangements made by him there, and along the whole line of march, which gave great satisfaction to the large party of travellers. Much is also due to Major Parkyn, by whom the heavy burden of direction at Truro was most willingly borne. The expenses were necessary large, and entailed a loss of £6 17s. 7d., a not unexpected exception to our general experiences. The monthly meetings were better attended than heretofore. The services of Mr. Naylor Carne, Mr. Trevail, and of the Rev. A. P. Moor, in providing interesting entertainment for three evenings, must be gratefully acknowledged. It is hoped that members and their friends will muster still more strongly this winter. It is proposed that, independently of the continued presidency of the Earl of Mount Edgecumbe, the two vacancies in the office of vice-presidents shall be filled by Dr. Barham and Dr. Iago, F.R.S., that Mr. Arthur Williams be the treasurer, Mr. H. M. Whitley and Major Parkyn, the secretaries; and that the other members of the Council be Mr. Carter, Mr. Howard Fox, Mr. Frecheville, Dr. Hudson, Rev. W. Iago, Mr. Hamilton James, Mr. H. S. Leverton, Rev. A. P. Moor, Mr. R. M. Paul, and Mr. Tweedy.

Dr.

H. G. Williams, Esq.,

Don, Treas. Royal Institution of Cornwall.

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1882.	1881.	£	s.	d.
To Annual Subscriptions, Donations, Arrears, } and Illustration Fund	July 31. 1882.	204	2	6
" H.R.H. the Prince of Wales	July 31.	20	0	0
" Visitors' Fees		8	16	0
" Sale of Journals, &c...		9	13	10
By Balance due to Treasurer Broth. for.		...	...	...
" Curators' Salary		...	...	...
" Insurance		...	...	...
" Illustrations for Journal		...	...	...
" Museum Expenses		...	...	...
" Conversazione		...	...	...
" Lake & Lake, Balance from Jour- nal No. 22		£10	2	0
" ditto Printing Journal No. 23		23	17	6
" ditto ditto No. 24		31	3	6
" ditto ditto No. 25		32	14	2
" Museum Catalogues		21	9	0
" Sundries...		3	9	6
Printing, &c.		122	15	8
" Botanical Magazine		8	3	9
" Geological Journal		2	2	0
" Journal of Science		1	0	0
" Meteorological Society		18	0	0
" Nature		1	0	0
" Postage and Parcels		1	10	0
" Paleontographical Society		9	8	10
" Repairs		1	1	0
" Ray Society		3	19	3
" Sundries		1	1	0
" Taxes		3	9	11
" Telegraph and Gardeners' Chronicle		3	10	0
" Rainfall and Magazine		1	19	0
" Balance		10	0	0
		5	17	6
		£242	12	4

Excursion Account.

Tickets	...	To Balance ..	..	..	£5 17 6	By Expenses	..	..	..	81 1 1
	...	Balance ..	..	..	74 3 6		..	..	..	..
			..	..	1 0 1		..	..	..	..
			..	..	£81 1 1		..	..	..	..
			..	..	£81 1 1		..	..	..	..
			..	..	£1 1 0		..	..	..	..
			..	..	£1 1 0		..	..	..	..

Additions to the Library since the Spring Meeting.

Astronomical and Magnetical and Meteorological Observations, made at the Royal Observatory, Greenwich, 1880	<i>From the</i> Astronomer Royal.
Report of the Astronomer Royal to the Board of Visitors	Ditto.
Monthly Notices of the Astronomical Society	The Society.
Transactions of the Historic Society of Lancashire and Cheshire, 1878-81.	Ditto.
The Journal and Report of the Liverpool Polytechnic Society	Ditto.
Proceedings of the Birmingham Philosophical Society ...	Ditto.
Transactions of the Bristol and Gloucestershire Archaeological Society	Ditto.
Bristol and Gloucestershire Archaeological Society, Notes on the Wills in the Great Orphan Book and Book of Wills at Bristol	Ditto.
Leeds Philosophical and Literary Society	Ditto.
Proceedings of the Philosophical Society of Glasgow ...	Ditto.
Penzance Natural History and Antiquarian Society ...	Ditto.
Transactions of the Eastbourne Natural History Society	Ditto.
Transactions of the Manchester Geological Society ...	Ditto.
Proceedings of the Zoological Society of London, a list of the Fellows, Honorary Members, and Medallists ...	Ditto.
Annual Report of the Smithsonian Institution	Institution.
Smithsonian Miscellaneous Collections	Ditto.
Annual Report and Transactions of the Plymouth Institution	Ditto.
Journal of the Cambrian Archæological Association ...	Association.
Report and Transactions of the Devonshire Association ...	Ditto.
Proceedings of the Geologists' Association	Ditto.
Journal of the Royal Historical and Archæological Association of Ireland	Ditto.
Journal of the Anthropological Institute of Great Britain and Ireland	Institute.
Collections, Historical and Archæological, relating to Montgomeryshire	Powy's Land Club
Proceedings of the Bath Natural History and Antiquarian Field Club	The Club.
Proceedings of the Liverpool Naturalist Field Club ...	Ditto.
Transactions of the North of England Mining Engineers...	Institute.

Transactions of the Epping Forest Field Club	...	...	The Club.
Journal of the Society of Arts.	...	...	Society.
Report upon the Geology and Mining Industry of Colorado	Mr. F. Emmons.		
Duloe Stone Circle.....	from the author Mr.C.W.Dymond,F.S.A.		

ADDITIONS TO THE MUSEUM.

Specimens from the British Museum. Large jar presented by Mr. E. Forbes Whitley. Old Pitcher found full of tin in a stream work in the neighbourhood of Bodmin, presented by the Rev. W. Iago. Cast of pottery found at Court, Lanreath, presented by the Rev. W. Iago.

The Report was adopted unanimously, on the motion of the Rev. A. P. MOOR, seconded by the Rev. A. H. MALAN.

Mr. WHITLEY stated that in addition to the lists of presents that had been read, he had a very large specimen of the part of a trunk of a fossil tree, found deep in the lower chalk at Eastbourne. Around the tree, and embedded in the chalk itself, were a great many marine fossils. The rarity of the thing was, that the chalk must have been deposited in the deep sea far from any land, and for that reason the stock of a tree was a very rare thing indeed to find in a chalk deposit. He would also take the opportunity of mentioning that his son at St. Columb had very fortunately hit upon the jar, alluded to in the list read, at the village of Little Petherick, near Padstow. It was said to have been found deep in the bed of the river, at the head where the tide flows, at Little Petherick, and that it belonged to the Arundels, a very ancient Cornish family. He next referred to a number of neolithic celts, which were on the table, and each of which was broken in two, as if by blows on the side. They were found in the chalk at Eastbourne, and he came to the conclusion that, as they were broken, the place where they were discovered was probably the site of an ancient British battle.

Dr. BARHAM suggested that Mr. Whitley should go into the details of the articles he had presented to the Institution, at one of their monthly meetings. The jar, he believed, was very similar to the oil jars which had been used from time out of mind.

The Rev. W. IAGO next described an old pitcher which he presented to the society. It had a circular mouth, and was found in a stream work, embedded at some depth and filled with tin. The ornamentation of the handle was made by the pricks of a stick, so that the jar sent by Mr. Whitley and the pitcher appeared to be somewhat of the same date.

The following Paper was then read :

“THE GEOLOGICAL STRUCTURE, AND AGE OF THE STRATA OF SOUTH CORNWALL,” by Alexr. Somervail.

RARE BIRDS IN CORNWALL.

Mr. N. HARE, of Liskeard, wrote to the secretaries of the institution stating that Mr. John Ough, bird-stuffer, of that town, recently brought to him for identification two birds which were rather rare in the county, viz., a Wryneck, knocked down from a tree by a stone, near Railway Terrace, St. Cleer, on the 30th September last; and a Snow Buntin, shot in the same parish on the 10th instant.

THE PROPOSED EXTENSION OF THE INSTITUTION.

Dr. BARHAM, referring to the suggestion to obtain the ground between the Institution and Pydar Street, said the freehold was available at a not unreasonable price. They were now building at Redruth a set of rooms, the funds for which were provided partly by private subscriptions and donations, and partly by grants from the Science and Art Department, South Kensington. The subscriptions amounted to between £1,200 and £1,300, and the grants to between £400 and £500. Before anything could be done it was necessary to communicate with the department to ascertain the conditions on which the grants would be awarded, and the probable amount. He therefore wrote on the 17th July, stating that the purpose in view was the extension of the accommodation now available, in the way of laboratories and rooms for study, by purchasing the freehold and buildings adjoining the premises belonging in fee to the institution. If this purpose could be accomplished, provision for an art gallery would probably be included in the plan. He would be glad to be informed whether the land and

building already held in fee, with the collection and apparatus already provided, would be included as part payment of the amount required to meet any grant from the department, if it could be legally effected. In answer to that, he received a letter stating that the amount of the grant would depend upon the space proposed to be devoted to science and art instruction. Any application for grant in aid of fittings for laboratories must be made before such fittings were ordered. No further step had been taken, and the conditions he thought were such as could be easily complied with. No grant, however, could exceed £500. The width of frontage in Pydar Street of the proposed site would be about 43 feet, and he thought it would be ample for their purpose.

Mr. H. M. JEFFERY, a relative of the late Rev. Henry Martyn, made a few remarks in reference to the letters presented by him to the Institution, written by the celebrated missionary, on his work, and pastoral, and literary labours.

Mr. WHITLEY made some remarks in reference to the neolithic celts which he presented to the museum. He had given 20 years of study to flint implements, and he had come to the decided conclusion that the great mass of flints said to be paleolithic and proving the early evidence of men, and as the work of men's hands, were nothing but of natural formation, although such men as Mr. John Evans, Professor Dawkins, and even Sir Charles Lyell and Sir John Lubbock had advanced the opposite theory. The flints which he had presented that day were undoubtedly made by man, as they were beautifully ground, and they were broken in the only way they could be broken. They were found on Eastbourne Downs, and he had come to the conclusion that there had been a war there in very early times. The other flakes lying on the table, it was quite clear, had been split by natural causes. In an hour's search on the chalk downs of Sussex he picked up 295 of these scrapers and flints similar to those brought from Egypt by Sir John Lubbock, and shown to various societies as the work of men. He (Mr. Whitley) was at present constructing roads at Eastbourne, and there his contractor had collected these split flints by hundreds of tons, and was using them for metalling

the roads. The same sort of flint flakes were found in the Egyptian deserts everywhere on the surface, and the conclusion had been arrived at that they had been broken by the great change of temperature during the day and the night in that climate, where the heat during the day was 200 degrees Fahrenheit, and in the night the cold was below freezing point. He (Mr. Whitley) believed paleolithic man to be a myth. The theory had never been proved, and it would gradually fade away as these shattered flint flakes became recognised as the relics of a change of temperature, and more—as relics of the great ice age, during which this country was covered with ice 2,000 feet thick. These flints were found in the subsoil with the crushed quartz in the neighbourhood, and it was clear the same action which crushed the one crushed the other, and they had been washed down from the north of Ireland by the drift, and crushed with the great masses of ice which passed over the surface.

The Rev. W. IAGO hoped the suggestion, that a collection of original writings by eminent Cornishmen should be made, would not be lost sight of, and he trusted at their next meeting they would hear more about the matter.

The Rev. A. R. TOMLINSON proposed the re-election of the officers of the society, which was seconded by Mr. W. J. CRIDDLE, and carried.

Mr. R. H. CARTER proposed a vote of thanks to the gentlemen who had given papers, and to the donors to the library and museum. He hoped the proposed Trevithick memorial, as shadowed forth by Dr. Barham, would soon be an accomplished fact, so that their museum and library might become still more worthy of the county.—The motion was seconded by Mr. E. G. SPRY, and carried.

On the motion of Mr. JEFFERY, seconded by Capt. BRYANT, a vote of thanks was passed to the President and to the Lord Bishop for presiding, and the noble EARL, in reply, said the question of adding to their museum was one which would no doubt receive the earnest consideration of the Council. How far the funds of the Institution would justify the purchase of the land was a matter which would receive the attention of

the Council, and no doubt they would determine wisely upon it. He considered a collection such as that suggested by Mr. Iago would be a great addition to the Institution, and they were already indebted to Mr. Jeffery for presenting to them two such valuable documents.

The BISHOP also acknowledged the vote, and expressed a sincere hope that they would be able one way or another to carry out the proposed enlargement of their premises. At present the Museum was hidden away, as it were.

The Meeting then terminated.

THE CONVERSAZIONE.

The usual Conversazione was held at the Rooms of the Institution in the evening, Dr. Jago, F.R.S., presiding, when the Rev. W. Iago, gave an interesting account of the places visited during the autumn excursion, which are fully noticed, in the account given, in the last number of the Journal.

TABLE No. 1.

Summary of Meteorological Observations at Truro, in Lat. 50° 17' N., Long. 5° 4' W., for the year 1882, from Registers kept at the Royal Institution of Cornwall.

1882.	MONTHLY MEANS OF THE BAROMETER. Cistern 43 feet above mean sea level.													
	Mean pressure corrected to 32 deg. Fahr. at sea level.		Mean of monthly means.		Mean correction for diurnal range.		True mean of monthly means.		Mean force of vapour.		Mean pressure of dry air.		Corrected absolute maximum observed.	
	9 a.m.	3 p.m.	9 a.m.	3 p.m.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
Month.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January	30.343	30.340	30.333	30.339	.004	30.335	0.263	30.072	30.937	18	29.400	3	1.537	.092
February	30.240	30.217	30.217	30.225	.003	30.222	0.263	29.959	30.870	20	29.108	26	1.762	.110
March	30.090	30.086	30.088	30.088	.007	30.081	0.273	29.808	30.677	16	29.050	1	1.627	.101
April	29.753	29.763	29.783	29.766	.004	29.762	0.277	29.485	30.294	20	29.133	29	1.161	.134
May	30.028	30.020	30.033	30.027	.003	30.024	0.319	29.705	30.468	17	29.403	24	1.065	.071
June	29.960	29.957	29.957	29.958	.001	29.957	0.351	29.606	30.247	16	29.600	9	0.647	.078
July	29.874	29.881	29.891	29.882	.002	29.880	0.397	29.483	30.454	27	29.331	7	1.123	.072
August	29.904	29.989	29.971	29.985	.004	29.981	0.413	29.568	30.391	4	29.301	25	1.090	.084
Sept	29.885	29.913	29.903	29.920	.004	29.916	0.360	29.956	30.383	8	29.291	26	1.092	.086
Oct.	29.810	29.814	29.833	29.819	.006	29.813	0.338	29.475	30.533	4	29.280	27	1.253	.088
Nov	29.797	29.784	29.787	29.789	.004	29.785	0.275	29.510	30.260	28	29.326	1	0.934	.140
Dec	29.668	29.658	29.698	29.675	.003	29.672	0.260	29.412	30.003	20	29.169	7	1.134	.109
Means	29.953	29.951	29.963	29.956	.004	29.952	0.316	29.636	30.485		29.283			

REMARKS.—The Barometer used is a Standard, made by Barrow, and compared with the Standard Barometer at the Royal Observatory, Greenwich, by Mr. Glaisher. The corrections for Index Error (+0.008), Capillarity (+0.013), height above sea (43 feet), and temperature, have been applied.

TABLE 4.

1882.	WEATHER.														
	AVERAGE CLOUDINESS.			RAINFALL.				Mean weight of vapour.			Amount of water in a vertical column of air.			SUN.	
	9 a.m.			Rainfall in inches.		Greatest fall in 24 hours.		Mean additional weight required for saturation of the air.			Mean elastic force of atmosphere.			Shine.	Gleam.
	9 a.m.	3 p.m.	9 p.m.	Mean.	No. of days in which rain fell.	Depth.	Date.	in.	gss.	gss.	in.	gss.	in.		
Month.					Truro.										
January	8.6	8.4	7.6	8.2	2.69	13	0.84	30	3.0	0.6	86	0.263	55.7	11	4
Feb.	7.6	7.4	7.4	7.5	3.17	15	0.78	28	3.1	0.5	86	0.263	55.2	21	2
March ...	6.3	6.3	5.6	6.1	1.22	16	0.22	30	3.1	0.7	81	0.273	54.6	39	5
April	7.0	6.0	5.5	6.2	5.98	22	0.81	21	2.7	0.9	77	0.277	54.0	35	5
May	6.4	5.4	4.6	5.5	1.84	11	0.32	23	3.6	1.1	76	0.319	54.8	41	4
June	7.0	7.4	6.4	6.9	3.59	18	0.79	5	3.9	0.9	81	0.351	53.6	32	6
July	7.1	6.9	6.4	6.8	4.15	19	0.83	10	4.4	1.1	81	0.397	53.1	5.0	37
August ...	6.5	7.0	6.6	6.7	2.60	13	0.68	24	4.6	1.2	82	0.413	53.3	5.8	39
Sept. ...	6.9	7.0	6.9	6.9	4.52	15	1.18	26	4.0	0.9	82	0.360	53.7	5.0	36
Oct. ...	7.6	7.4	6.4	7.1	6.04	23	1.28	23	3.8	0.7	85	0.338	53.8	4.4	28
Nov.	7.2	8.0	8.0	7.7	5.57	28	0.67	6	3.1	0.6	84	0.275	54.7	3.6	23
Dec.	8.3	8.2	7.7	8.1	6.73	28	0.74	12	3.0	0.4	89	0.260	54.7	3.4	17
Mean	7.2	7.1	6.6	6.9	48.10	2.21			3.5	0.8	82	0.316	54.2	4.2	30.3
														75.1	15.1

REMARKS.

Frost 10, 22, 24. Hall 3.6. Remarkable Rain 2, 30.
 Frost 3, 5, 20. Rainbow 17, 9 a.m. Gale 26, 28. Remarkable Rain 25, 28.
 Frost 3, 4, 13, 14, 15, 16, 17. Hall 2, 3, 21, 22, 29, 30. Gale 21, 22.
 Frost 10. Hall 14, 27, 28, 29. Gale 29. Remarkable Rain 1.
 Fog 10. Gale 19.
 Gale 8, 9. Hall 12.
 Remarkable Rain 10.
 Lightning seen, thunder not heard 13. Gale 23, 23.
 Thunderstorm 2, 12. Hall 12, 13. Remarkable Rain 20.
 Frost 20. Hall 21, 22, 23, 24, 25. Remarkable Rain 10, 18, 23.
 Frost 15. Hall 8, 9, 16, 15, 10, 17, 20. Gale 1, 2, 16, 17.
 Frost 6, 7, 8, 9, 10, 11. Hall 6, 8. Fog 19, 20. Remarkable Rain 12.

Cloudiness is estimated by dividing the sky into ten parts, and noting how many of these are obscured. The rain gauge at Truro is placed on the flat roof of the Royal Institution, at about 4 feet above it, and 55 feet above the sea. Gleam is recorded when the sun's disk is visible through a film of cloud.

ON THE GEOLOGICAL STRUCTURE AND AGE OF THE STRATA
OF SOUTH CORNWALL,

BY ALEXANDER SOMERVAIL.

In a Paper published in the Journal for August, 1881, Mr. Collins has entered into considerable detail regarding the Geological Structure and Age of the Strata of South Cornwall; he differs very widely from the conclusions of De la Beche, who surveyed the county and published his report thereon in 1839, in which he described the entire strata of this portion of Cornwall as belonging to the Grauwacke group, or that group of strata which underlies the coal, or whatever else that term may include.

Mr. Collins also differs very widely from the results laid down on the most recently published maps of the Geological Survey, which represent the whole area as of Devonian age, with the exception of a small strip of strata on the coast at Veryan Bay, coloured as Lower Silurian, mainly due to the researches of Mr. C. W. Peach, and subsequently corroborated by Murchison and Sedgwick, who visited the various localities, and from fossil evidence, were able to refer the beds in question to the Caradoc division, a member of the Lower Silurian formation.

The anomalous position of these Caradoc beds, overlying the Devonian, was explained by Sedgwick as being due to an inversion of the strata, and this explanation of a seeming reversal in the order of succession appears to have sufficed up to the present time.

Subsequent to the researches of De la Beche, Peach, Murchison, and Sedgwick, much good work has doubtless been done, and the results published in various Journals and Transactions, especially in the Transactions of the Royal Geological Society of Cornwall, but I am not aware that the views entertained by the above workers and the results published in the most recent issues of the Geological Survey Maps have been much modified.

or called in question, until the paper with which we are dealing made its appearance in your Journal, in August, 1881.

Mr. Collins differs very widely from the conclusions of all previous observers, in breaking up the Strata into no fewer than four well-defined formations, viz., the Cambrian, Lower Silurian, Upper Silurian, and Devonian, all of which he claims to have well marked lithological and palæontological characteristics, and also to be separated from each other by lines of unconformability, which are to be seen in many parts of the county under consideration.

The distributions of these various formations as laid down on the map which accompanies Mr. Collins' memoir, presents a most intricate and network-like appearance, which if it really exists as delineated on the map, reflects the very highest credit on his powers as an observer in unravelling the wonderfully complex interweaving of the different formations represented.

Taking the different formations into which he has divided the strata in their regular order, we will begin with the lowest or oldest.

Pre-Silurian or Cambrian.—We find this occupies a large space on his map, covering nearly the entire area on the north coast between St. Agnes Head and Godrevy. On the south coast it extends from near Calenick to beyond Penryn, in the direction of Falmouth, and also occurs at a few other localities in the neighbourhood, which may be seen by referring to the map.

The character of the rocks which make up this formation is described as containing neither sandstone nor limestone, and as being entirely devoid of organic remains. "They are" he says (to use his own words) "all extremely ancient in appearance, generally very siliceous and rough to the touch, except where they are black and carbonaceous, or where scales of mica or talc have been developed between thin laminae."

He also mentions that "a band of what appears to be true gneiss, nearly half-a-mile in width, has also been developed in these Pre-Silurian rocks near Penryn, close to the junction of the killas and granite."

To the general aspect of these so-called Cambrian rocks as above described we will not demur, but the occurrence of a true

gneiss among them is a statement to which we take exception. The band or beds in question are certainly much metamorphosed by their close contact to the granite, but approach in no way whatever the aspect of a true gneiss. The next important feature in connection with these Cambrian rocks is the statement made that they are separated from the overlying Lower Silurian by well marked unconformabilities which occur in various parts of the county, a statement which if correct would fully justify Mr. Collins in applying the term Cambrian to the strata described by him as such.

These alleged unconformabilities are said to be seen "in the river just below Devoran at Feock, in the roadside not far from the Church, and at the southern end of Ponsanooth tunnel between Perranwell and Penryn."

For the express purpose of verifying these statements all of these localities were visited and examined with care but without any trace of the alleged unconformabilities being visible.

The section given in plate B, fig. 6, accompanying Mr. Collins's paper, represents an unconformability, as he says it occurs in the Devoran Creek, between Chycoose and Point, but its existence as drawn in the diagram is not to be found in this vicinity. The soft and nearly flat lying beds described by Mr. Collins, and apparently mistaken by him for the Lower Silurian, covering the edges of his highly inclined and contorted Cambrians are, we think, nothing else than broken-up edges, together with the débris swept down from the bank above; this at all events was the only appearance we could find answering in any way to the diagram or to its description.

The section as exposed at the south end of Ponsanooth tunnel, where another unconformability is said to occur, was carefully examined, also its north end, but both with a like result, each end exposing a regular and consecutive series of beds without any unconformability whatever, or anything approaching to it occurring.

The remaining section referred to as exposing an unconformability at Feock, in the roadside not far from the Church, betrays no sign of it. All the roadside exposures at and near this point are very much decomposed, broken up, and fallen from their original position, but wherever good sections

can be obtained there is a regularity of strike and inclination, which precludes the possibility of any unconformability in this neighbourhood.

There are many exposures of rocks of the same ages occurring on the north coast of the county, which as yet I am not acquainted with from observation, but Mr. Collins makes no mention of unconformabilities in this region, neither am I aware that any such have been noted by other observers, which inclines me still further to doubt their existence *in toto*.

If a line be drawn on the map beginning from the granite at Penryn, and continued in the direction of Pendennis Point, or to the coast at Gerrans Bay, it will be found that the line will pass through a rising section of strata from the lowest beds which incline against the granite at Penryn up to the highest beds exposed, without any of the alleged unconformabilities occurring, so that there is a most complete unity throughout the whole series of strata.

It will thus, at once, I think, be clearly seen that we have no reasonable evidence to justify us in breaking up these beds into two distinct and well-defined formations. I would therefore cancel the term Cambrian as applied to this series of strata, and associate the whole of these rocks simply as a lower portion of what Mr. Collins regards as Lower Silurian, to the consideration of which we will now pass.

Lower Silurian —I quite agree with Mr. Collins in removing the strata exposed around Falmouth and its neighbourhood from the Devonian as at present laid down on the maps of the Geological Survey, and transposing them to the Lower Silurian, although the survey is quite correct in colouring as Lower Silurian that portion of the strata at Veryan Bay, which Sedgwick explained as being an inverted portion of that formation resting upon the Devonian. With regard to these Lower Silurian beds as described by Mr. Collins, I have but few remarks to make, as his observations are not of an extensive nature, being principally confined to a few general aspects which are in the main correct enough.

There is, however, one point on which Mr. Collins has, I think, committed a very serious blunder. He has separated the

conglomerate* which forms the Nare Point, altogether from the Lower Silurian, and has placed it in his Ladoek or Devonian formation. This he has done on the ground of another alleged unconformability, said to be seen near the Nare Point, of which a diagram is given plate, A, fig. 2, which represents this conglomerate as resting on the upturned edges of the Lower Silurian.

Anyone who carefully examines this section at the Nare Point will find that Mr. Collins has completely misinterpreted the relation of the conglomerate to the rest of the beds, many of which are of a similar nature. The conglomerate certainly rises high above the accompanying strata, forming an eminence a little way inland from the Point, but this eminence is entirely due to its possessing greater hardness than the adjoining slaty rocks. It is distinctly interstratified and inclines at the same angle and in the same direction as the other beds, and can be traced down to the shore, where its relations with the other strata are seen to be strictly conformable, forming along with other beds of conglomerate and slates, an unbroken and consecutive series of beds.

There are a few other points connected with these Lower Silurian rocks with which I cannot agree, such as relate to the distribution and boundaries of the system, but these must form a subject for some future communication. In the meantime let us pass to the consideration of the beds termed Upper Silurian.

Upper Silurian.—Under this head Mr. Collins includes the great series of strata occurring in the neighbourhood of Fowey, Lantivet Bay, Polperro, &c, so well known from the remarkable fossils of fish and other remains first found in them by Peach, and the late able naturalist, Dr. Jonathan Couch of Polperro.

Here again Mr. Collins brings in other unconformabilities separating this formation from the underlying Lower Silurians, but where any of these unconformabilities occur is not stated. As far as my researches extend I have not been so fortunate as to come across any clear indications of unconformability.

Lithologically these beds consist of a great series of thickly bedded impure sandstones, black, grey, purple, and red slates,

* Subsequent investigations indicate these to be true ashes or tuffs and agglomerates.

the thick bedded sandstones occupy the lowest position, and are well seen in the neighbourhood of Fowey. The red and purple slates form a higher portion of the system, and are well exposed in many of the road sections a little to the west of Polperro.

Palæontologically these beds are characterized by numerous fish remains, likewise by the occurrence of many corals, echinoderms, numerous shells representing all the great orders of the mollusca, the whole fauna forming an assemblage which gives the palæontologist but little difficulty in referring the strata to their true geological position, viz., the Devonian, to which they had been previously referred by many geologists who understood the weight and bearing of their palæontological evidence.

How Mr. Collins has fallen into the error of identifying these beds with the Upper Silurian, it is difficult to imagine, charged as they are with typical forms belonging both to the lower and middle Devonian.

The term Upper Silurian as applied to these Fowey beds must therefore be abandoned, nay, further, it is quite evident that there is no representative of this formation in the whole area under consideration, and indeed throughout the county of Cornwall. This is a fact of some interest, as it is in strict accordance with the order and succession of the rocks of Brittany, where the Lower Silurian and Devonian formations are both present, but where the Upper Silurian is entirely absent.

Devonian or Ladock.—Under the term Ladock, which Mr. Collins used as a synonym for Devonian, owing to beds said to be of that age receiving a typical development in the parish bearing that name, is a group of strata which he regards as the highest or “the most recent stratified rocks of Central and West Cornwall.”

He considers that the rocks of this system have their boundary a little to the south of Truro. To the north of this town they cover an extensive area, stretching from coast to coast as between Pentewan and St. Agnes' Head. They are described as principally of a slaty character, with a few sandstones having a regular east and west strike, and nearly or altogether devoid of organic remains. Confining our remarks to the strata of this area (excluding those on the north coast at Watergate Bay, which I am not acquainted with from personal observation), let

me state that I consider it extremely doubtful if any of these Ladoek beds really belong to the Devonian at all. There is no fossil evidence whatever to show that they do, and their stratigraphical position would also seem to negative the idea.

It is quite possible that the very highest of these Ladoek beds may not be far from, or even form the base of the Devonian, but at all events, it is not until we reach the neighbourhood of St. Austell that we meet with strata of undoubted Devonian age containing characteristic fossils, in spite of which, by the way, Mr. Collins indicates the strata of this area in his map as of Lower Silurian age.

Taking then into account the whole of the stratigraphical evidence, and the non-occurrence of fossils in these rocks, a fact so highly characteristic of the beds which we have already described as Lower Silurian, as they are developed in this portion of Cornwall, I think we are fully justified in regarding these Ladoek rocks simply as an upper portion of the Lower Silurian.

We have already noticed the fact that the thick bed of conglomerate occurring south of the Helford river, at the Nare Point, which Mr. Collins claims to be a detached or outlying portion of his Ladoek formation, is really after all but part of the Lower Silurian of that district, strictly conformable with the other conglomerates which make up that well marked group.

Two other localities are cited where his Ladoek formation is stated to be seen resting unconformably on the edges of the the Lower Silurian. Both are on the coast, one a little south of Pentewan, and the other at Chapel Point, near Mevagissey. Both of these localities were visited and examined, but no evidence of unconformability could be detected. The rocks in this neighbourhood are certainly much disturbed, but there is nothing which can be regarded as an unconformability.

Altogether I think it will be very clear to any physical geologist that instead of these Ladoek beds forming, as stated by Mr. Collins, "the most recent stratified rocks of Central and West Cornwall," it will, I think, be found that they are in reality about the lowest in the county, and are covered by the great thickness of beds running from St. Austell Bay to beyond Looe, which he places beneath his Ladoek formation, although the former are well known to run up into the base of the Plymouth limestones.

The instances of alleged unconformabilities throughout the paper are very numerous, and did they really occur but to one half their number, their existence would not say much for the care and power of observation of men like De la Beche and Sedgwick, both very able geologists, noted for their correctness, especially the former, who surveyed the county and whose opportunities were great.

While fully admitting the ability of Mr. Collins as a geological observer, and agreeing with him in the removal of the term Devonian as applied to much of the strata and the substitution of Lower Silurian in its stead, I cannot but think that he has fallen into errors which only tend to complicate and involve the geology of the district

With regard to my own observations on the age and order of succession of the strata of the area under consideration, I will be very brief, laying before you only an outline, as this subject alone would be much more than sufficient for a separate communication.

Let me begin by drawing your attention to the small strip of strata at Vryan Bay, coloured on the geological survey maps as Lower Silurian, as I conceive this to be the key to the geology of the surrounding district.

These beds were first examined and found to be fossiliferous by Mr. Peach, and subsequently by Murchison and Sedgwick, who, from the decided and well marked character of their included organic remains were able to refer them to the Caradoc, a member of the Lower Silurian.

The whole of the adjoining strata were still regarded as of Devonian age, and even at the present time are mapped as such in the most recent survey maps.

As already stated, Sedgwick, in order to explain the anomalous position of a member of the Lower Silurian resting upon the Devonian, had recourse to the theory of an inversion of the strata. Had he extended his survey of the adjoining strata he would have found that there was a natural sequence without any sign of disturbance of the underlying rocks passing up into the Caradoc, and that in the beds beneath them Devonian fossils were not to be found in that region.

Lithologically these Caradoc beds are characterized by a series of quartzites, conglomerates, and limestones. Their strike at Gerrans Bay, if prolonged, although curving round a little to the west, undoubtedly becomes correlated with precisely similar beds occurring south of the Helford river at the Nare Point, and also containing the same organic remains which mark their north-eastward extension, and also underlaid by the same slaty beds.

On the present survey maps these Lower Silurian rocks, although containing the same fossils and having the same mineral characteristics and occupying the same geological horizon as those at Gerrans Bay are nevertheless coloured as Devonian.

We find that these Caradoc beds are everywhere underlaid by the still lower series of strata to which we have already alluded, and which I have no hesitation in calling the Llandeilo, the member which immediately underlies the Caradoc. These Llandeilo beds consist of a great series of slates and impure thinly bedded sandstones, the whole being characterized by the immense thickness of dark carbonaceous looking slates, which is quite the character of this division of the system in other localities, as in Wales, and also in Scotland.

The lowest of these Llandeilo beds (the Cambrian of Mr. Collins), are well exposed in the neighbourhood of Penryn, where they abut against the granite, and from this point to the Caradoc of Veryan Bay and the Nare Point, there is a gradual ascending section, so that a line passing from the granite of Penryn through Falmouth to the "Old Wall Buoy," would pretty nearly indicate the thickness of the Llandeilo and Caradoc divisions in this region, which will, I think, be something like 10,000 feet. From the Llandeilo rocks no fossils have as yet been recorded. It would almost seem as if every organism originally contained in the strata had been destroyed by the metamorphism that the beds had undergone during the formation of the granite. At the same time, however, it is highly interesting to note the fact that the dark carbonaceous slates are such as would result from the graptolites which are so highly characteristic of this division of the Lower Silurian, and that such also is the aspect of the rocks which make up this member of the system both in Wales and in Scotland; consequently I

think we are justified in using the term Llandeilo for the beds which immediately underlie the Caradoc. With reference to the boundary between these two divisions, this is a task that has yet to be accomplished, of course the dividing line must be less or more an arbitrary one. I do not think that the colouring in the present survey maps which separates the Lower Silurian from the so-called Devonian (or as we think Llandeilo), indicates any well marked bed or beds which would serve as a horizon, or line of separation, which appears to be entirely a conjectural one.

In the region to the south and south-west of Falmouth no higher formation or group of strata than these we have already described occur, viz., the Caradoc beds south of Helford river. If, however, we draw a line from Falmouth in a north-east direction towards Looe, following that line we get a continuous ascent from older to newer formations, passing through what I have termed the Llandeilo upwards to the Caradoc, through the Lower and Middle Devonian, the Upper Silurian being altogether absent.

As far as I have been able from very limited observation to make out the geological structure of the district, and the order of succession of the various formations through which the line already alluded to passes, I am inclined to think that the Lower Devonian comes on in the neighbourhood of St. Austell, or on the coast about the Pentewan valley, and from this point, with the exception of a few reversals of dip, we continue ascending up to the Middle Devonian of Looe, which brings us close to the base of the Plymouth limestone group.

Let me remark that the Fowey and Polperro beds, so replete with organic remains, have hitherto by most observers been regarded as of true Devonian age: I am not aware that any geologist at the present day, besides Mr. Collins himself, has attempted to identify them with the Upper Silurian.

There is a point of great interest connected with these Devonian rocks of Cornwall, and the organic remains which they contain. In Devonshire and other counties of England, where strata of this age occur, they as a rule contain only an invertebrate marine fauna, such as corals, shells, &c., the remains of fishes being entirely or nearly absent. In the old red sandstone of Scotland, which is the equivalent of the Devonian, this state of things is completely reversed. The

invertebrate marine fauna, such as corals and shells, are entirely absent, and their place is taken by the remains of numerous fishes, presenting quite a contrast to the typical Devonian of England. In Cornwall, however, the Devonian strata contain quite a co-mingling of the testacea of the rest of England, and of the fishes of Scotland, serving as a link to unite the Devonian and Old Red Sandstone into one great life system, a character which it also possesses as developed in Russia.

The object of this paper has not been to enter into any lengthened detail on the geology of this portion of Cornwall, but rather to remove what I consider to be errors which only tend to complicate and confuse its study.

The brief outline I have indicated of what I consider to be the structure, age, and order of succession of the rocks forming this portion of Cornwall, curiously enough is precisely the same as obtains in Brittany, where the Upper Silurian is also absent. Further, throughout the whole of the various members of these formations as developed in that country, there is a most complete conformity, such as we consider exists in Cornwall.

That very much requires to be done for Cornish geology will be most obvious to its best workers; much requires yet to be done in assigning large tracts of the strata to their proper formations, in defining their horizons and boundaries, in detailing the structures the rocks assume in forming the surface of the country, in working out their life history by carefully collecting and tabulating their fossil contents, and also in studying the relations of the granite to the stratified rocks, and the various igneous outbursts that have from time to time taken place, noting those that are of contemporaneous origin and those that are of subsequent date to the strata.

Again the strata in various parts of the county under consideration, present many points of difficulty and of a very problematic nature. Such an area occurs in the neighbourhood of Mevagissey, where the strata are very much disturbed, standing quite vertical and forming what appears to be the axis of a series of folds, which tends greatly to increase the difficulty in tracing out the sequence of the strata in this rather complicated district.

Another similar region occurs in the Lizard district, where the dip of the apparently older series of hornblende and talcomicaceous slates become opposed to that of the ordinary strata immediately south, and to the north of the Helford river, and where their other relations are rather obscure, so that the geology of this, (notwithstanding the late very able investigations of Professor Bonney, who regards the Lizard rocks as of Archæan age) as well as of other areas of Cornwall, presents a very wide field for investigators.

To conclude, let me acknowledge, amongst others, the very correct and able conclusions of Mr. N. Whitley,* who many years ago expressed and recorded opinions very similar to some of those held by myself, and whose views, let me add, I have only had the pleasure of becoming acquainted with since the completion of this paper.

* See Annual Report of the Royal Geological Society of Cornwall, Vol. VII, page 285, 1858.

RELICS OF THE CORNISH LANGUAGE,

By REV. W. S. LACH-SZYRMA, *Member.*

Among our many antiquities in Cornwall, our menhirion, our cromlechs, our earns, and barrows, our dolmens, our Cornish crosses, and plan-an-guares, and mediæval churches, there is one class of antiquities purely Cornish, and yet which is too often forgotten by visitors and even by natives, *i.e.*, the relics of our ancient Cornu-British language.

This language is of more importance from a scientific stand point than many folks imagine. It is one of the meshes (so to speak) of the vast net of the Aryan tongues, which have spread over nearly all Europe and most of India and Persia, and the total loss of it for scientific purposes would have been serious; it is probably a tradition of the ancient languages of the tribes of old Britain, south of the Thames, prior to Cæsar's conquest; it thus is the oldest tongue of the most important parts of southern England, and may, though that is not certain, have been very like the tongues of the ancient Britons who fought against Julius Cæsar in his two invasions. It is, moreover, the last deceased of the great Aryan family of languages, and the one in which, as I think, the laws of decay affecting a language in civilized Europe may be best traced. It is also in some sense a literary language, more so, indeed, than several of the minor languages now existing on the European continent, than for instance the Wendish or Romansch.

The deep fascination that gathers around everything that can illustrate the early history of the ancient Britons, can be best realized by us as we read Dr. Guest's interesting suggestive work, *Origines Celticæ*.

Every shred of evidence is useful, nay, is precious, for all the evidence which is really trustworthy about Britain anterior to the Roman conquest is very slender. Linguistic evidence has, however, great importance now, both from an historical and an ethnographical standpoint, on account of the modern theory, that language is a test of race, and that nations may be classified according to their languages.

There are some four existing lines of evidence about the languages of the ancient Britons :—

1.—The Welsh, which probably is derived from the languages of the tribes of Britain north of the Thames.

2.—The Breton, which is the language of the British emigrants from this island to Armorica.

3.—The Cornish, or Cornu-British, the ancient language of Cornwall, Devon, and probably Somerset, and possibly not unlike the tribal dialects in use among the Britons south of the Thames.

4.—The Manx, perhaps of least real value, seeing that it is really not Cymric but Gadhelic.

To these some might be inclined to add the Cumbrian, but of that really little can be ascertained, and there is reason to believe it was little more than a dialect of Welsh, which Cornish was not.

Having thus seen the importance of the Cornish, let us see what relics of this ancient Cymrian tongue, allied to the Welsh and Breton, there still exist. These relics may be divided roughly into three groups :—

1.—The ancient literary remains, whether printed and published (in modern times), or still remaining in manuscript.

2.—The names of places and persons, *i.e.*, the

“Tre, Pol, Pen,

By which you know the Cornishmen ;”

or the vast collection of quaint non-English names of our Cornish hills, woods, fields, moors, and estates.

3.—The few surviving relics of Celtic words in our Cornish dialect.

As to our literature, this was much larger than many folk suppose. The Cornish were not indeed a literary people, but in the middle ages the Cornish clergy thought it well to teach their people by the eye and ear in religious dramas, mostly founded on the Bible story, but some, as we now find, relating to the religious history of Cornwall, and to old Britain. Of these a few are still extant, and have been printed and translated into English. It is true modern critics say that these dramas have little literary merit, but in some points (as readers of the *Church in Cornwall* magazine may have noticed) I beg to

differ from them. I contend that both in the drama of the Ascension, and in the *Mors Pilati*, there are some fine and suggestive passages, while the *Beunans Meriasek* throws light on a most obscure portion of the British history, *i.e.*, the last struggles of heathenism with Christianity in Celtic Britain. Here and there we may find fine passages in many of the dramas, and perhaps we should find many more if we could grasp the rhythm, the old now extinct tongue.

I would suggest that an admirable field for ingenuity lies before any intelligent Cornishman or Welshman possessed of poetic talent to translate these dramas into English verse. As they stand now in the translations used for almost purely philological purposes justice is not done them. I am sure the little attempt made to put a few verses of the drama of the ascension into English should be merely a beginning of what ought to be done more extensively.

The Cornish dramas now extant in the Cornish language may be thus divided :—

A. The Scriptural dramas.

1.—The Creation of the World—*Origo Mundi*, giving the story of Genesis with the Legend of the Holy Rood, carried on to the building of Solomon's Temple.

2.—The Passion Play—*Passio Christi*. This is interesting now from comparison with the well known Aber Ammergau Passion Play of our own time.

3.—The drama of the Resurrection.

4.—The drama of the Ascension, bound with it. This I think the grandest and most truly dramatic of the poetic works of old Cornwall.

5.—The Post Reformation play of the Creation, by Jordan, in the reign of James I. A good edition and translation of this was made by Mr. Whitley Stokes for the Philological Society, in 1863. It was published and edited also with Keigwin's translation by Davies Gilbert.

B. The Historic or Legendary Group of dramas discovered in 1869 among the *Hengwrt MSS* in Wales.

1.—The *Beunans Meriasek*, or life of S. Meriasek, of Camborne, (from whence the nickname of Merrygeeks may have come) in two parts.

The story carries one from the childhood of Meriasek to his death as Bishop of Vannes. It opens with his schooldays, and displays his eagerness for a work in Cornwall among the Cornu-Britons. He is represented as refusing to marry a princess, as crossing over to Cornwall, and settling at Camborne, near Carn Brea. Here he is persecuted by Teudar, a pagan chief of Riviere, and ultimately driven from the country. The Duke of Cornwall, who is a Christian, goes to war with Teudar in consequence of this persecution, and defeats him at Godren, in Kea, near Truro, which would thus seem the last battle field of the Christians and Pagans in Cornwall. On his return Meriasek is made Bishop of Vannes.

2.—The drama of Constantine the Great carries out the mediæval legend of S. Sylvester.

The Emperor Constantine is represented at first as a persecutor. Afflicted by leprosy, he is advised to take a bath of children's blood. Several children are obtained for this purpose, but Constantine relents, is miraculously cured by S. Sylvester, and ultimately converted.

3.—The story of the Woman and her Son is a sort of interlude put with the Constantine story into the drama of Meriasek. It is a quaint mediæval legend (apparently of Brittany).

4.—The Mors Pilati, as almost entirely legendary, may be put in this group, though bound up with the Resurrection Play, and thus commonly counted as a scriptural drama.

C. The Epic poem of Mount Calvary.

This is, as far as I know, the only Cornish epic. It is simple and pathetic, telling the sacred narrative of the Gospel in plain language.

D. The later remains of the language.

Most of these may be found in Lhuyd's Grammar, or in Pryce. Some of the MSS, *e.g.*, the Gwavas MSS, have not yet been published.

As to these remains they are of little literary value. One old song, a few verses, a curious collection of proverbs—some probably in use in the last century, some mottoes, a few letters, and the story of John of S. Levan, written in Cornish.

Besides these remains we have the dictionaries and the grammar.

Of dictionaries, the first place must be given to the ancient Cornish vocabulary of the middle ages, intended to teach Cornish boys Latin (at least apparently so).

Williams's *Lexicon Cornu-Britannicum* is the best work yet out on Cornish words, though unfortunately having been published before the valuable discovery of the Beunans Meriasek, in 1869, and the later researches of Mr. Jenner, Dr. Jago, and others into modern Cornish, is necessarily imperfect. It was printed too soon.

In Pryce and Lhuyd you will also find Cornish dictionaries, beside which we have Andrew Borde's quaint glossary for Cornish tourists, in the reign of Henry VIII.

Of grammars, the most ancient I am aware of is Lhuyd's, which was composed prior to the extinction of the language. It is contained in his valuable *Archæologia Britannica*. It was published before the death of the language in 1777, when it was still used along the sea shore from Land's End to S. Kevern.

Pryce's grammar of the end of the last century is excellent, but the literary history of the work is rather peculiar. We have no time, however, now to go into that matter.

The best modern grammar is by Norris, of the British Museum. It explains most of the peculiarities of the language. It was printed in 1859, and also bound up with his edition of the Cornish dramas.

Zeuss Grammatica Celtica also contains valuable matter on Cornish.

CORNISH NAMES.

These are the most familiar and best known of the forms of relics of the Cornish language. No one can pass the Tamar and not be struck with the curious sound of Cornish names. Let us quote a few instances.

Even in East Cornwall there are hundreds of interesting Celtic names of places. Wherever we go in Cornwall, indeed, we are reminded that although among an English speaking people, we are in a county where a few centuries ago, English, if not unknown, was not the language of familiar intercourse,

where, indeed, as was said even in Elizabeth's time, the stranger who lost his way and asked for it in English might meet the reply, "mee a na-vidra cowza Sawneck." "*I have not learnt to talk Saxon.*"

As samples of Cornish names, let me instance a few places, close to my own house and in my own parish.

Street-an-Nowan (is our village), *Street*, road; *An*, the; *Nowan*, new.—The New Road.

Chy-pons—*Chy*, House; *Pons*, Bridge.

Bowjey—*Bow*, cow; *Chy* or *Jey*, House.

Tolcarne—*Tol*, Hole; *Carne*, Pile of Rocks.

Tredavoe—*Tre*, Place; *Davoe*, of David.

Gwavas—Wintry. *Gwav*: winter.

The subject of Cornish place names has been well dealt with by the late Dr. Bannister, of St. Day, in his valuable work on the subject. Some thousands of Cornish names have there been collected and dealt with.

As to patronymics, (the Tre, Pol, Pen,) you will find Dr. Charnock's work useful, but I cannot quite accept all his derivations. Mr. Bottrell, of St. Ives, made a few valuable notes on Dr. Charnock's work, which I hope to see printed.

Last but not least are the surviving relics imbedded in the Cornish dialect. Of these, two valuable collections have been recently made by—

Miss Courtenay, valuable glossary of words in Cornwall, published by the English Dialect Society, in 1880.

Dr. Jago, in his recent work.

Probably there are not a hundred Cornishmen who are aware of how much of their old language is still surviving on the lips or in the memory of the people. On the other hand, when we try to collect the words of the Cornish dialect, we are soon loaded with words in common use in other counties, especially Devon, archaic-English words, and mere corruptions of pronunciation.

Still, for all that, a good deal of old Cornish still lingers among our mining and fishing folk, not only in their accent, pronunciation, and structure of sentences, and idiomatic expressions, but even in actual words. Of these I have

endeavoured to pick out those that seem to me to be bona fide Cornu-British words, and with the aid of philological friends weeding them out, I hope, ultimately, to have a list of the real survivals of Cornu-British.

The last sentence actually used was, I believe, the fishermen's cry, still remembered by some of our Newlyn fishermen :—*Breal meta truja peswartha, pemphthes, whethes all is scrawed.*

Breal—brithel—*mackerel—the striped fish.*

Meta—*next* (Q. for *nessa, second*).

Truja—*third.*

Peswartha—*fourth.*

Then we have the children's cry :—Vesy, vasy, vumfra.

Also the game Pedn-a-mean—*Heads and tails.*

The actual living survivals of Cornish in common speech, however, I suspect are now reduced to mere words, simple or compound, set in an English sentence.

The following I have heard used, which are truly Celtic :—Piggywidden—*the little white one*, used as a term of endearment to a child at Tredavoe.

Padj-i-pau, *the four foot* ; Padzher, *four* ; Pou, *foot* ; Gr., ποὺς.

Cheel vean—*little child.* Ve an for *little.* Mutation for Behan. This really is a compound English and Cornish word, so also is Arish Mow, which I have heard used.

As for simple words their number is considerable—probably about 200 survive in living speech of Cornu-British words. Not a few of them are names of animals, or plants, or else trade terms. The cause of the survival of the latter is not difficult to detect. The old Cornish tradesmen did not learn English from men of their own calling. The consequence was that though ordinary ideas were expressed in English, those dealing with specialities retained their old Cornish forms. Thus some of the mining and fishing terms are Cornu-British, though both miners and fishermen are English speaking people, *e.g.*, Bal is probably mutation for pal, and is now used for a mine.

I may here say that I have endeavoured to draw out a list of Cornu-British words, still in use in the county. These have

been presented to the Philological Society, in London, and are now being examined with a view to the careful elimination of the Anglo-Saxon elements, and also of words common to other countries in the West of England.

The number of Cornu-British words still extant and used I should calculate as hardly short of 200, but most of these are of infrequent occurrence, and perhaps no person is accustomed to use all of them in conversation, as so many of them are trade terms, or names of things rarely employed.

In conclusion, I hope the few remarks I have made on the relics of the ancient Cornu-British tongue may tend to give some present an interest in the ancient and now, we may say, extinct language of their ancestors. It was probably wise and prudent of the Cornishmen of the sixteenth and seventeenth centuries to give up their ancient tongue for the more useful and more polished English, but at the same time with the light of modern philology, it is no less well to remember that there once existed such a tongue as the Cornu-British, spoken not merely in Cornwall, but in much of south and west Devon, and that that tongue has a definite position in the great Aryan family of languages, and thereby has a certain interest and importance to every linguistic scholar. The relics of the ancient tongue are among the most interesting of Cornwall's rich treasures of antiquity.

DAME KILLIGREW AND THE SPANISH SHIP.

By H. MICHELL WHITLEY, F.G.S., Hon. Sec.

In the "Compleat History of Cornwall," compiled by our Cornish antiquary, Mr. William Hals,—a work, the publication of which, according to Lysons, was suspended for want of purchasers, occasioned by the scurrilous anecdotes which it contained,—there occurs a strange story of a fair buccaneer of the Killigrew family, which runs as follows:

"The country people here about will tell you (as such are superstitious enough to do) that this manslaughter of Mr. Killegrewe by Mr. Vincent, whereby the male lyne of that family is extinct, was a just judgement of God, for that Jane Killigrew, widow of Sir John Killygrew, knt., aforesaid, his greate grandmother, in the Spanish Wars the later end of the reigne of Queen Elizabeth, went aboard two Dutch Shippes of the Hanse Townes (allwaye free traders in tymes of warr) driven into Falmouth Harbour by cross winds, laden with merchantdises on account (as was said) of Spaniards and with a numerous party of ruffians slew the two Spanish Merchants, or factors on board the same, and from them took two barrells or hogsheads of Spanish pieces of eight, and converted them to her owne use.

Now though Fleta liber 1, chapter 3, Temp. Edward 2nd, tells us that it is no murder unless it be proved that the party slaine was Englishe, and no stranger yet afterwards by the statute 4 Edward 3rd his son chap 4, The Killinge any foreigner under the king's protection out of evil designe or malice is made murder, upon which statute those offenders were tryed and found guilty at Launceston of wilful murder, both by the grand and petty juries, and had sentences of death passed accordingle upon them, and were all executed except the s^a Lady Killygrew, the principal agent and contriver of this barbarous fact; who by the interest and favour of Sir John Arundell, of Tolverne, Kt., and his son-in-law, Sir Nicholas Hals, of Penjersick, obtained of Queen Elizabeth, a pardon or reprieve of the said lady which was reasonably put into the sheriff of Cornwall's hands,

At the news whereof the other condemned wretches aforesaid at the gallows lamented nothing more than that they had not the company of that old Jesabel Killigrew at that place as in justice they ought to be (to use their owne words) and begged Almighty God that some remarkable judgement might befall her, and her posterity nay and all those that were instrumental in procuring her pardon—and observed hereupon it was that her grandson, Sir William Killygrew, as aforesaid, spent the whole paternal estate of his ancestors, as did Sir Thomas Arundel, Kt., son of Sir John Arundell, aforesaid, and John Hals, Esqr., son of Sir Nicholas Hals, Kt., in their owne tymes, but alas several and public revolutions of this kind; and all other in wordly affairs are carryed on by the judgement and providence of God, not the determination of men, especially such barbarous ruffians as these criminals, though these things happened according to the malefactors direful imprecations in some sense.

This lady, Jane Killegrew, afterwards gave a silver cup to the Mayors of Penryn, for ever in memory of some kindness in her troubles, received in that Corporation, 1612.”

This curious relic of Lady Jane is preserved at Penryn, with the inscription: “From Maior to Maior of the town of Penmarin, when they received me that was in great misery, 1633.” And it has been generally supposed that the trouble referred to was the before-mentioned attack on the Dutch ships.

There appears to be but little doubt that Hals was rather a scandalmonger, and also seems to have had some private grudge against the Killigrews, and in fact almost every other Cornish family, and the story has therefore been discredited by subsequent historians: but documents in our Public Record Office prove that the tale has a foundation in fact, and I propose to give a short account of the capture, from the original papers, and contrast it with the story told by Hals; and in listening to it we must bear in mind that the England of Elizabeth's time was far different to the England of the present day.

The fires of Smithfield had only just smouldered out in ashes and dust of the noblest and truest in the land, and the thunder cloud of the Spanish Armada was drawing down over

the realm, and if there was one feeling more deeply inwrought than any other into every nerve and fibre of the average Englishman, it was hatred of the Pope, the Inquisition, and the Spaniard. The western seas swarmed with small craft called pirates, who, without the open sanction of the Queen, attacked the vessels and weakened the power of Spain and other foreign nations, and it was in a great measure due not only to this crippling, but also to the practical training it gave the sailors, that the men of the western counties played such a noble part in "Britain's Salamis."

It appears then that the *Mary*, of St. Sebastian, a Spanish ship of 144 tons burden, owned by John de Chavis and Philip de Oryo, merchants, the latter being as well the captain, arrived in Falmouth Haven on the 1st of January, 1582, and cast anchor within the Bar, under Sir John Killigrew's house at Arwenack. Here for "lack of wynde" it remained, whilst the owners took up their quarters at a little inn at Penryn, awaiting a change; but about midnight on the 7th, the ship was boarded by a boatful of men who overpowered and bound the Spanish sailors, and set sail; the Spaniards appear to have been thrown overboard, and the ship taken to Ballentynmoor, in Ireland, where she was plundered. Formal complaint of their loss having been made by the owners, the Commissioners for Piracy in Cornwall, (who comprised amongst others Sir John Killigrew, Sir Fras. Godolphin, and Mr. Chamond,) held a meeting at Penryn to enquire into the complaint.

Suspicion appears to have fallen on some of Sir John Killigrew's servants, who bore rather a bad name for dealing with pirates, (indeed a very curious story may be written as to the relations between them and the Cornish gentry of this period) and two of these servants named Hawkins and Kendall, were thought to be the culprits: but one Elizabeth Bowden, who kept a small inn at Penryn, having deposed that these men were at her house, and remained there until 12 o'clock, on the night the attack was committed, the jury returned the open verdict that the ship had been stolen, but by whom there was no evidence to show.

No doubt it would have been convenient for the matter to have rested here, but Chavis and De Oryo were men of action,

and having procured a safe conduct to London from the Commissioners, they laid their complaint before the higher authorities, with the result that the Earl of Bedford instructed Sir Richard Grenville, and Mr. Edmond Tremayne, to make a searching investigation into the matter.

As might have been expected, this enquiry had a far different result to the previous one, the truth having been extracted from unwilling lips: it is needless to follow in detail the story as narrated by witness after witness, briefly it is as follows:

The plot originated with Dame Killigrew, who on the Sunday in question, ordered Hawkins and Kendall to board the Spaniard. From the evidence of the governor of the rival Castle of St. Mawes, it is clear that one of Sir John Killigrew's men came, with the news that the Spanish ship was about to leave, and also requested him not to hinder her doing so. The men beforenamed went to the Lime Kiln,* where they met amongst others, several sailors, who had remained at Pendennis Castle all day, of which fortress Sir John Killigrew was then the governor.

After an unsuccessful attempt to induce the Spanish merchants to go on board their ship, with the probable object of leaving no witness behind to tell the tale, about midnight the party boarded the ship, and being aided by a couple of Flemings, they bound the crew, and set sail; when outside the Bar, Kendall and Hawkins were put on board their boat, with sundry bolts of Hollands and leather, of which they "would have taken more but the sailors would not consent, saying there was enough sent away already," and made for the land, mooring their boat at the stake by the smiths' forge, near Sir John Arundell's house.†

The plunder was taken to Arwenack, and divided amongst Lady Killigrew and Mrs. Killigrew, a couple of ladies at Penryn, and the maids and servants in the house, not omitting "old Knowden and long William." Lady Killigrew on receiving the stuff was very ill contented that it was of no more value, and

* The Lime Kiln stood at the creek at Market Strand then known as the "Lime Kiln Creek."

† The Smiths' Forge is supposed to have stood on the south side of the creek at Market Strand, from which the ancient name of Smithike was derived.

kept as well as her own share, the bulk of what was to have been that of her maid servants.

Hawkins, who appears to have been the ringleader, was sworn to strict secrecy by Lady Killigrew, who was exceedingly nervous lest the secret should be discovered. The leather that fell to her share was placed in a cask and buried in the garden at Arwenack, and Lady Killigrew told him she should keep all from her husband's knowledge, as if he knew it, it might cause them all to be hanged. And now there comes a quaint little episode in the evidence worth recording at greater length, as an illustration of the manners, and customs, of those homely days : At Penryn there lived one Margaret Piper, who had been indebted to Lady Killigrew, and had received as well some of the stolen goods, hearing of her Ladyship's intended departure to London, and that she would not probably return for three years, she wished to give her a small present, meaning to bestow a capon upon my lady, but was told by one of her maids "that if she meant to pleasure my lady indeed, it would be better to give her xii^d, as she had more need of money than capons. So she went to Arwenack to my ladie, and gave her this, with thanks for her courtesies, at which my ladie replied (and that with tears) that she would alwaies be mindful of her goodwill : and my lady being busy about her despatches, without any more speeche, she tooke her leave and soe departed from her."

Such was the general result of the enquiry (for which the Earl highly commended the Commissioners), which also disclosed the fact that Lady Killigrew had endeavoured to hush up the matter, by every means in her power.

We are now in a position to compare Hals' statement with the facts, and it is curious to note that every detail he gives is inaccurate.

It was not about the end, but about the middle of Queen Elizabeth's reign, that the occurrence took place. Lady Killigrew did not board the ship, but remained on shore. It was not two Dutch vessels, but one Spanish one which was stolen. The Spanish merchants were not killed, but on the contrary were the only ones who escaped, and it was not two barrels of pieces of eight, but sundry bolts of Hollands, and packs of leather, that were taken ashore, whilst to crown all, it was not Dame

Jane Killigrew, but Dame Mary Killigrew, her husband's grandmother, who was the heroine of the tale. It also appears the former lady was divorced from her husband, and that the town of Penryn furnished her with funds, and the inscription on the silver cup refers to this fact.*

Thus although the story in its general outlines is true, the details have been much distorted, and the obvious moral is that in all cases of local history, resort must be had to the original documents, where they exist, and that no statement should be adopted without being thus verified.

* MS. History of the Killigrew Family, Journal R.I.C., 1876.

Monthly Meetings

OF THE

Royal Institution of Cornwall.

December 18th, 1882.

Dr. BARHAM made some interesting remarks on the Physiological Illustration of History; after which the Rev. A. P. Moor gave a lecture on "Roman Antiquities," which was illustrated by numerous engravings and photographs

January 15th, 1883.

The Meeting discussed the papers of Mr. J. H. COLLINS, F.G.S., on the Geological Age of Central and West Cornwall, published in the Journal, Vol. 7, p. 18, and that of Mr. ALEXANDER SOMERVAIL on the same subject, printed in the present number.

February 19th, 1883.

A Paper was read from Mr. H. MICHELL WHITLEY, F.G.S., on "Cliff Castles in Perranzabuloe and Crantock."

After describing the traces of an entrenchment which once existed on Ligger Point, at the north end of Perran beach, about midway between the summit of the headland and the engine house of Penhale Mine, apparently not a very formidable one, Mr. WHITLEY describes Penhale Point and Kelsey Head Castles as follows:—

PENHALE POINT CLIFF CASTLE.

A half-mile further north is the second of the two headlands, running out boldly into the sea, and terminating in a grand mass of weather-beaten grey rock, torn and fissured below with the ceaseless wash of the Atlantic rollers, and fretted away above by countless years of rain and tempest.

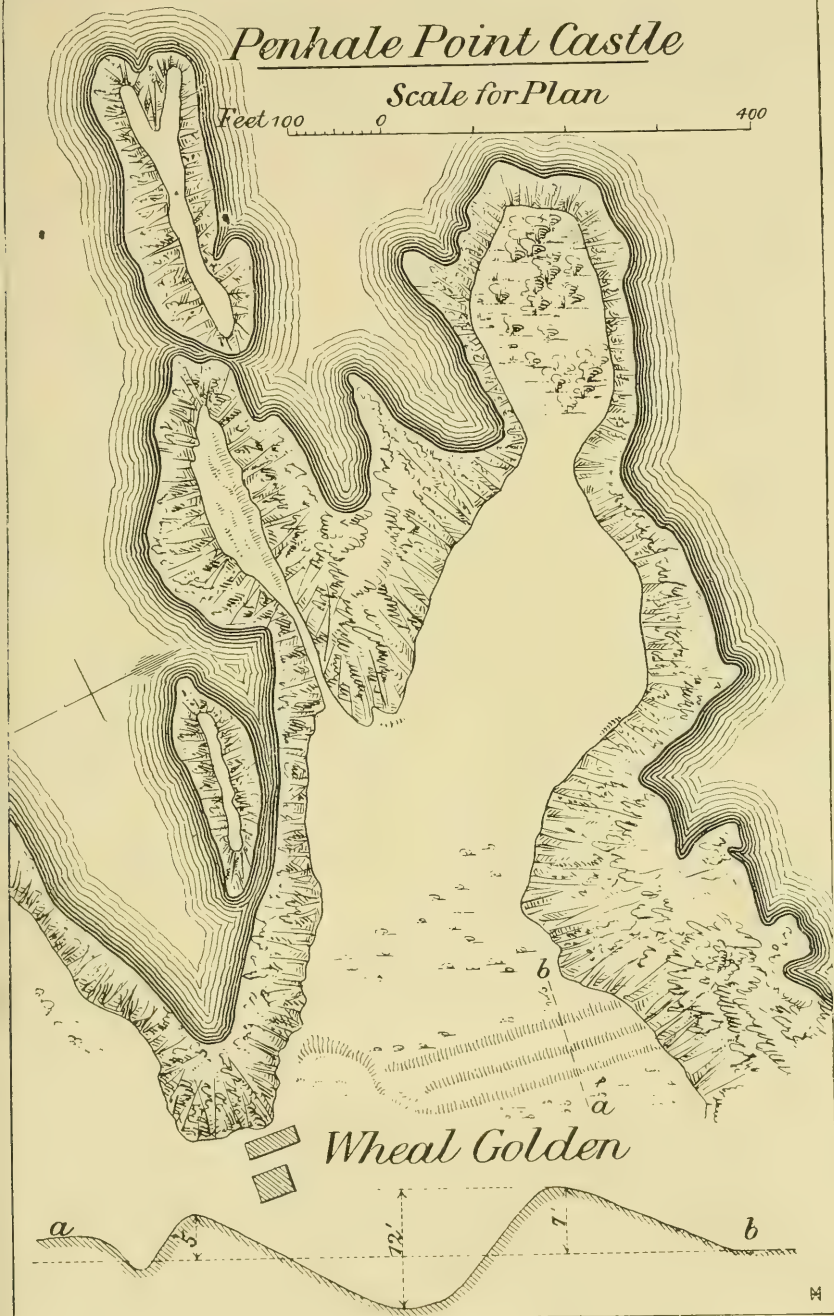
Penhale Point Castle

Scale for Plan

Feet 100

0

400



About a quarter of a mile from the end of the headland the cliffs approach one another, a little cove running inland on the southern side, and this spot was fixed on for the site of the line of defence across the point. For more than half the width the old vallums and ditches are nearly perfect, and form a very formidable defence; there are two vallums with a deep ditch between, and a shallower one outside starting from the outside of the entrenchment; the first ditch is about 3 feet deep, then comes the outer vallum 5 feet above the bottom of this ditch, and 10 feet above the inner ditch, beyond which the main vallum rises to a height of 12 feet from the bottom of this ditch, and 7 feet above the general level of the ground inside.

The total width of vallums and ditches is 65 feet, and both mounds have a steep front outwards with a more gradual slope towards the protected area.

This bulwark commences at the cliff at the north-east of the Headland, and runs up the hill, which is very steep, for about 70 yards, nearly to its crest, in an almost perfect condition, except when cut by a modern mine cart-track that crosses it about midway up: as evidence of the pains bestowed on its construction, the outer ditch was cut on the top of the hill through the solid rock, which still shows on its outer edge.

Further west for the remaining third of the distance, all traces of the castle have been obliterated by Huel Golden Mine. the engine house and refuse heaps being exactly on the course of the line of defence, which bent apparently slightly to the west, to reach the nearest angle of the cove in the western cliff.

Like Ligger Castle, no well can be traced inside the area, or any signs of hut circles; whilst the ever swirling rush of the tide around the jagged rocks below, would render a landing, except under very exceptional circumstances, a matter of the utmost difficulty, if not of utter impossibility.

KELSEY HEAD CLIFF CASTLE.

A mile and a half north-east of Penhale Point, the fine promontory of Kelsey Head runs into the sea, being the next in the chain of points on this ironbound coast where—

“The dark cliffs beetle coldly o’er the deep,
Fringed by the lace work of pearl-threaded foam,
That mermaids weave and hang along our shore.”

This point also bears on its summit an entrenchment, which is so prominent as to have been inserted in the ordnance map as a “camp.”

The form of the headland precluded the construction of a straight line of earthwork across it from cliff to cliff at the spot selected, and the form of the castle vallum is therefore a wide crescent, concave towards the interior.

Unlike Penhale Castle, there is here only a single vallum and ditch, but the whole extent of the work can be well traced, and it is in a fair state of preservation.

Starting from the cliff on the north-east side of the headland, the vallum and ditch run up the hillside in a south-west direction, (curving slightly to the north-west) for about 130 yards to the entrance. The outer portion against the cliff is much lower than the higher part, the mound being about 3 feet high and 10 feet wide, and the ditch of similar dimensions, but as it nears the entrance and the hillside becomes less steep, the vallum and ditch become more prominent, the former being 6 yards wide, and 9 feet above the level of the ditch, and the latter 4 feet deep below the original surface, and about 4 yards wide. At the entrance a change of direction takes place, the mound running due west for about 26 yards, after which it again bends to the north-west, and continues until it reaches the cliffs on the west of the headland. For three-quarters of this distance to a group of rocks the vallum shows a bold elevation, rising 11 feet above the bottom of the ditch, and being about 7 yards in width, and the ditch here is 3 yards wide, and 4 feet deep below the original surface. Beyond the rocks the land falls sharply to the edge of the cliff, and here although the ditch can be traced plainly, although shallow, no traces of the vallum exist, it was probably low. As a further protection to this side, a low mound starting from the point where the vallum disappears, runs out from the ditch at right angles, for about 15 yards, curving slightly towards the west, with a shallow ditch before it, thus covering this portion of the castle.

A little beyond the termination of this spur mound, is a

curious circular pit, which however does not appear to have been connected with the castle.

The ditch has been excavated with care, and to the west of the entrance, has in places been cut through the solid rock. The entrance road is carried over the ditch by a mound, and the vallum is cut down to the original level, it is here about 15 feet wide.

The space enclosed within the entrenchment is about three acres, sloping gradually from the ditch, towards the cliffs. No water, or trace of habitation, is to be found within; there is, however, a marshy spot in the ditch on the eastern side, where some water might be obtained in very wet weather; but even this is doubtful, and its position outside the wall would render it inconvenient, if not useless to the defenders. A flint core *in situ* below 3 feet of soil, was found within the enclosed area; but flakes and shattered flints are abundantly scattered over the whole of these northern headlands; a large number having been found on Penhale and Ligger Points, as well as Pentire; but the men who cut trenches through solid rock, had better tools than a shattered nodule of flint, to accomplish such work.

There is no landing place within the castle area, the only spot being a little cove shut in by perpendicular walls of rock, into which the sea boils and foams in all but the calmest weather; to the east of Kelsey head lies the sandy cove of Port Joke, where boats might possibly land in fair weather, but this would be far beyond the boundary of the castle, and useless to its defenders.

From the entrenchment southwards the headland gradually rises in a long flat slope, and about a quarter of a mile distant, on the summit, are the remains of a large barrow, and close to it on the north, a very low mound, with ditch on the south side, runs across the headland from cliff to cliff. This might have been an outwork, but it is so faintly to be traced that all with respect to it must be conjecture.

It is a note-worthy fact, that every headland from Perran to Kelsey Head bears a cliff castle on its extreme point, and although a short description of Kelsey Head Castle has been published by Mr. Pattison in the reports of this society, the

Author is not aware that any notice has ever been drawn to the existence of Cliff Castles on Penhale or Pentire Point.

And on these three headlands it may be remarked that landing within the fortified area would be, with the ships then existing, almost if not quite a matter of impossibility, even in the calmest weather, exposed as they are to the long rolling surge of the restless Atlantic; and that no hut circles or wells can be traced, and this seems to point rather to these castles being places for temporary shelter for the inhabitants than for an invader dependent on his fleet. That they were more than places for the safe keeping of cattle is also apparent from the evidence of the double vallums at Pentire Head.

The Author hopes to have time at a future period to continue his examination and surveys of the remaining headlands, the results of which he will communicate to the Society if they be of sufficient importance.

The next paper was on an "Inventory of Household Goods in the 17th Century," contributed by Mr. E. FORBES WHITLEY. The inventory, which is worth preserving as giving an account of the possessions of a substantial yeoman of this period, runs as follows:—

A trew and perfeckt Inventory of all the goodes and chattelles of Christopher Dandy of Saint Breock next Wadebridge, lately decessed had and apprised this Fourth day of February, Anno dommeney, 1689, by Thomas Barones, Christopher Pidlear, Peter Hickes, and Thomas Danday, of the aforesaid St. Breock, as folloeth:—

		li	s.	d.
Imp ^{ri}	His pures and girdell and wear- ning aparell }	02	00	0
I ^{tn}	For to ¹ oxen to cowes	08	00	0
I ^{tn}	For to yarlines and to caves	02	10	0
I ^{tn}	For fifty sheap	10	00	0
I ^{tn}	For sixteenne hoges	02	00	0
I ^{tn}	For three nages and on ² colt	06	05	0
I ^{tn}	For seven rering piges	00	18	6
I ^{tn}	For polling	00	00	6
I ^{tn}	For Huthatell estate	48	00	0
I ^{tn}	For corne in the mohay	07	10	0

1—Two. 2—One.

I th	For four ecares ³ of corn in the ground	03	10	0
I th	For three Beadeas ⁴ furnished.. ..	05	00	0
I th	For on pres, on cheast, on box, on table-board, to geat stoles	01	00	0
I th	For, to table boards to cheares ⁵ ..	00	15	0
I th	For three panes, ⁶ to crockes, on cellet ⁷ eight putar dishes.. .. .	02	15	0
I th	For plowstof ⁸ and implements there- unto belonging	00	10	0
I th	For ceves ⁹ and lethes ¹⁰ and rendeas ¹¹ and other implements belonging to the trade.. .. .	50	00	0
I th	For kealle ¹² and all othear thinges unsing ¹³ and unapraised	00	00	0
I th	For good and bad deabteas ¹⁴	20	00	0

THOMAS BARONS.
CHRISTOPHER PIDLER.
PETER HICKS.
THOMAS DANDY.

Dr. BARHAM then made some interesting remarks on the
“Meteorology of Cornwall in 1882.”

March 19th, 1883.

After some notes by Dr. BARHAM on the “Meteorology of
the winter,” the remainder of the evening was devoted to an
examination of various Microscopic objects exhibited by Mr. W.
NAYLOR CARNE.

3—Acres. 4—Beds. 5—Chairs. 6—Pans. 8—Plough-stuff. 9—Seives.
10—Lathe. 11—Renders. 12—Keelers were implements used in the bolting-
house. 13—Using. 14—Debts.

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Journal of the Royal Institution of Cornwall.

[SUPPLEMENT.]

—:O:—

TWO SETS

OF

UNPUBLISHED LETTERS

OF THE

REV. HENRY MARTYN, B.D.,

OF TRURO,

*Formerly Fellow of St. John's College, Cambridge, and Chaplain
on the Bengal Establishment.*

EDITED, WITH PREFATORY REMARKS, BY HIS GRAND-NEPHEW,

HENRY MARTYN JEFFERY, M.A., F.R.S.,

AND

Published by consent of the Council of the Royal Institution of Cornwall.

INTRODUCTION.

1. The Two Sets of Letters of the Rev. H. Martyn of Truro, which are now published by the favour of the Council of the Royal Institution of Cornwall, were copied by myself or by my order from the original documents, lent by my relatives.* The larger and more important series was held by Mr. H. M. Hitchins, or his sister Miss E. Hitchins, to whose father and mother† most of the letters had been addressed in the years 1805-9; for the three short semi-pastoral letters, which bear the date of 1808, I am indebted to my cousin, Mrs. Slater of Blackheath, to whom they had been presented by a relative of Mrs. Dare.

The letters in the first set were directed to the Rev. Malachy Hitchins, M.A., vicar of St. Hilary and Gwinear, Cornwall, to his son, Rev. Thomas Martyn Hitchins, incumbent of Stoke, Plymouth Dock, and the wife of the last-named, Mrs. Emma Hitchins.

The second set of letters was addressed to Mrs. Dare, the wife of an Indian military officer.

Some of the correspondence with the Hitchins' family had been examined and partly published by Bishop Wilberforce, but only one letter in its entirety; however, the whole (except the last) are being printed, as they came into my hands, some of them reduced to fragments, possibly from the incidents of publication and circulation.

A later letter dated from Shiraz, October 21st, 1811, has been already printed *verbatim* in Martyn's Journals and Letters, and therefore is not here reproduced.

All these letters are written with correctness and unstudied ease in familiar correspondence with relatives, and dwell on the same themes as their author's previously published writings, viz:—his pastoral ministrations and missionary efforts, his bitter self-searchings and passionate sorrows, and his incessant toil as an orientalist.

* Two of the original letters, which I was allowed by my relative, Mr. H. M. Hitchins to retain, will be presented to the Royal Institution of Cornwall.

† See their Pedigree at page 12.

Martyn's proceedings in ordinary life are here exhibited, which were foreign to their purpose, and therefore probably suppressed by his biographer, and the editor of his Journal and Letters. These letters do not add much to our previous information, since it was Mr. Martyn's practice to extract the materials of correspondence from his diary. They should therefore be read in connection with that document, as published in 1837.

2. Of the considerable body of literature, which has grown up round the career of this eminent Cornishman, much is religious and deals exclusively with his spiritual life; but in the *Edinburgh Review* (July, 1844), we may see a masterly portrait of the Truro Missionary, drawn by a highly cultivated layman, Sir James Stephen, and we may read an analysis of his moral and mental, as well as of his spiritual, nature. [Re-printed in this Journal, pp. 6-11.]

In Stephen's slightly cynical but appreciative description of the abolitionists and evangelical leaders of Clapham, the high motives are shewn of the men, who acted with Martyn, and endeavoured to guide and control his fiery zeal.

The sketches left by two of Martyn's friends, Mrs. Sherwood (*Christian Remembrancer* 1854), and Dr. Clement Carlyon (*Early Years and Late Reflections*, 1856) bring us, as it were, into personal contact with our author. The latter, who evidently disliked indiscreet zeal or enthusiasm, contrasts Bishop Heber favourably with Martyn in similar circumstances, and thinks the courtly and conciliatory manners of Heber would have spared Martyn many sneers and rebuffs, which habitually met the confessor,—from the highest to the lowest, from Sir James Machintosh as from Persian Moollahs. Nevertheless Dr. Carlyon's testimony to the courage of his friend, sustained by religious principle, is well worth quoting.

"I can answer for his having been as brave, as he was learned and good. He quailed before no man. Accordingly we find, that at their last interview, Sir J. Machintosh, who doubtless was a man of no ordinary pretensions, found himself drawn into a philological discussion with a stranger, whose mental capacity was commensurate with his own." (Vol. III, p. 131).

3. A correction is due *in limine* to the statements of all Martyn's biographers. Rev. J. Sargent, Martyn's original biographer and friend, and father-in-law of Bp. Wilberforce, (whom the rest copy) erroneously wrote that Mr. John Martyn of Truro, Henry's father, had been a miner in his native parish of Gwennap. Bishop Benson was better informed. In his opinion Martyn "must have descended from an ancient humble family, "for there was a John Martyn at Gwennap in 1695, father of "the Thomas Martyn, who made the famous map of Cornwall." (Lecture delivered at Truro, February, 18th, 1881). Mr. John Martyn undoubtedly belonged to a family of skilled miners, *i.e.*, mine agents or mine captains, who filled positions of trust; but I am inclined to doubt if he ever went underground, from some MS. notes written by my father.

"John, an elder brother of Thomas Martyn, was the father of "John Martyn, who was born at Gwennap Churchtown, and, "when young, was put as an accountant at Wheal Virgin Mine. "He was soon made cashier to Ralph Allen Daniell, Esq., of "Trelissick. Mr. Martyn held 1-24th of Wheal Unity Mine, "where upwards of £300,000 was divided. He then resided "in a house opposite the Coinage Hall (now the Cornish Bank), "Truro, a little below the present Market House. Here Henry "Martyn was born February 18th, 1781, and was sent thence to "Dr. Cardew's School in 1788."

The perversion of the truth by Mr. Sargent has not only pained members of the family, but misled many to suppose that Martyn's career was an exception to the ordinary course of merit and advancement.*

Fortes creantur fortibus et bonis. Hor.

4. I should wish to add a few remarks on my uncle's literary standing. Bishop Benson has rightly judged, that Martyn's bias was both by occupation and inclination turned towards comparative philology, and he has further quoted the opinion of others, that if his life had been prolonged, he would have been one of the greatest of oriental scholars.

In the six years, from 1806 to 1812, he did an immense deal of useful work as a translator of the Holy Scriptures

* See Martyn's Pedigree *sub finem*.

and Liturgy into Hindoostanee and Persian, which is well-known and still highly valued :* but his scientific training ever urged him not only to build up the separate languages, but to trace their mutual relations and common origins in the Semitic and Sanscrit families severally.

The age of such linguistic studies had hardly dawned. If Martyn had attained the full age of man, he would have been spared many fallacies in philological speculation ; for he would have been succoured by the orientalisists of Germany, and probably have co-operated with them.

Springing as he did from a family of calculators, which comprised T. Martyn and M. Hitchins, he had the patience and taste necessary for mathematical attainments. But there are few traces of his having pursued science either at Cambridge or subsequently, except as an educator. He does not appear to have been a mathematical examiner even in his own college. Stephen describes him as "patient of the most toilsome "enquiries, but not wooing philosophy for her own sake." The age was unfavourable to research, as the English were bigoted adherents of Newton's methods, and paid no heed to the analytical processes, which the continental philosophers had invented.† We have the further express evidence of Archdeacon Hoare, that "poetry and the classics were his predominant passion." [Memoir, p. 494.]

5. Attention may be drawn to an alteration in Martyn's feelings, which was revealed in the closing paragraph of the long letter, No. 13 (1808), which had been carefully concealed by gum. The engagement with ‡ Miss Grenfell, if it ever existed, was formally at an end. Martyn takes a calm, prosaic view of the situation ; he continues to proffer his friendship, but cancels his attachment. Miss Harriet Parr, who founded

* For a descriptive catalogue of the translations, tracts and sermons of the Rev. H. Martyn, see "*Bibliotheca Cornubiensis*," Vol. II. The last work of the late Prof. Palmer was to revise Martyn's Persian New Testament for the Bible Society. *Monthly Reporter*, December, 1882.

† Dr. Carlyon has recorded (*Early Years*, Vol. III, p. 5) how high wranglers won their places in 1796, by correct book-work rapidly produced in oral examination from four set treatises by Wood and Vince on Optics, Mechanics, Hydrostatics, and Astronomy ; problem-papers were answered by the best men.

‡ See Miss Grenfell's Pedigree on page 12, as extracted from the *Bibliotheca Cornubiensis*, to which I am signally indebted.

her religious novel, entitled, "Her title of honor," on the romantic relations of Martyn with Miss Grenfell, ought to have perused this common-sense conclusion of the love-tale.

In letter (6) we read, for the first time, the initials of a rival and prior suitor for the lady's hand, S. J(ohn) (?) It should be noticed that Miss Grenfell was senior to Martyn by six years, so that in 1805 the disparity of years was striking.

6. It was unfortunate for Martyn, that he tied himself at the outset of his Indian life. His friends urged him to marry on general and particular grounds, as we read in letter 1, and throughout his correspondence. Cecil's opinion was particularly emphatic.

If ever a man required the domestic control of a sister or wife, to save him from reckless waste of his own existence, Martyn needed the affectionate curb. He worked in India at the eastern languages, as he had laboured in England as an undergraduate, with utter self-abandonment. Thus he writes (April, 1808), that he "fags as hard as ever we did for our "degrees at Cambridge." "Such a week of labour I never "passed, not excepting even the last week before going into "the Senate-House. I have read and corrected the MS. copies of "my Hindoostanee Testament so often, that my eyes ache. "The heat is terrible, often at 98°; the nights insupportable."

His biographer, Sargent, comments on this record with complacent admiration: "whatever he had to do, he did it with all his might"; on the other hand, a wife or sister would simply have forbidden self-sacrifice, either by literary toil, by fasting, by exposure to the sun, or by preventable hardships in travel, which were, in fact, the combined causes of his early death.

He could lecture (Memoir, p. 247) his friend and coadjutor, Corrie, for wasting his health by impetuous zeal; but he was unable to apply his sage counsel to his own short-comings. Thus it came to pass that Martyn's constitution, congenitally weak, was unprotected, either by himself or by others, and he died prematurely, alone, and unbefriended by man.

A fiery soul, which, working out its way,
Fretted the pigmy body to decay,
And o'er-informed the tenement of clay.—*Dryden.*

SIR JAMES STEPHEN ON REV. HENRY MARTYN, B.D.

(Extracted from the *Edinburgh Review*, July, 1844)

“Towards the middle of the last century, John Martyn, of Truro, was working with his hands in the mines near that town.* He was a wise man, who, knowing the right use of leisure hours, employed them so as to qualify himself for higher and more lucrative pursuits; and who, knowing the right use of money, devoted his enlarged means to procure for his four children a liberal education. Henry, the younger of his sons, was accordingly entered at the University of Cambridge, where, in January, 1801, he obtained the degree of bachelor of arts, with the honorary rank of senior wrangler. There also he became the disciple, and, as he himself would have said, the convert of Charles Simeon. Under the counsels of that eminent teacher, the guidance of Mr. Wilberforce, and the active aid of Mr. Grant, he entered the East India Company’s service as a chaplain. After a residence in Hindoostan of about five years, he returned homewards through Persia in broken health. Pausing at Shiraz, he laboured there during twelve months with the ardour of a man, who, distinctly perceiving the near approach of death, feared lest it should intercept the great work for which alone he desired to live. That work (the translation of the New Testament into Persian) at length accomplished, he resumed his way towards Constantinople, following his Mihmander (one Hassan Aga) at a gallop, nearly the whole distance from Tabriz to Tocat, under the rays of a burning sun, and the pressure of continual fever. On the 6th of October, 1812, in the thirty-second year of his age, he brought the journal of his life to a premature close, by inscribing in it the following words, while he sought a momentary repose under the shadow of some trees at the foot of the Caramanian mountains: “I sat in the orchard, and “thought with sweet comfort and fear of God—in solitude, my “company, my friend, and comforter. Oh when shall time give

* Corrected by Mr. Jeffery in the *Cornwall Gazette*, March, 1881, and in the preceding preface.

“place to eternity! When shall appear the new heaven and
 “new earth, wherein dwelleth righteousness and love! There
 “shall in nowise enter anything that defileth; none of that
 “wickedness which has made man worse than wild beasts; none
 “of those corruptions, which add still more to the miseries of
 “mortality, shall be seen or heard of any more.” Ten days
 afterwards those aspirations were fulfilled. His body was laid
 in the grave by the hands of strangers at Tocat, and to his
 disembodied spirit was revealed that awful vision, which it is
 given to the pure in heart, and to them alone, to contemplate.

Amidst all the discords which agitate the Church of England,
 her sons are unanimous in extolling the name of Henry Martyn.
 And with reason; for it is in fact the one heroic name which
 adorns her annals from the days of Elizabeth to our own. Her
 apostolic men, the Wesleys and Elliotts and Brainerds of other
 times, either quitted, or were cast out of her communion. Her
Acta Sanctorum may be read from end to end with a dry eye and
 an unquickened pulse. Henry Martyn, the learned and the
 holy, translating the Scriptures in his solitary bungalow at
 Dinapore, or preaching to a congregation of five hundred
 beggars, or refuting the Mahomedan doctors at Shiraz, is the
 bright exception. It is not the less bright, because he was
 brought within the sphere of those secular influences which have so
 often drawn down our Anglican worthies from the Empyrean
 along which they would soar, to the levels, flat though fertile,
 on which they must depasture. There is no concealing the
 fact, that he annually received from the East Indian Company
 an ugly allowance of twelve hundred pounds; and though he would
 be neither just nor prudent, who should ascribe to the attractive
 force of that stipend one hour of Henry Martyn’s residence in
 the east, yet the ideal would be better without it. Oppressively
 conclusive as may be the arguments in favour of a well-
 endowed and punctually paid “Establishment,” they have,
 after all, an unpleasant earthly savour. One would not like to
 discover that Polycarp, or Bernard, or Boniface, was waited on
 every quarter-day by a plump bag of coin from the public
 treasury. To receive a thousand rupees monthly from that
 source, was perhaps the duty, it certainly was not the fault, of
 Henry Martyn. Yet it was a misfortune, and had been better
 avoided if possible.

When Mackenzie was sketching the *Man of Feeling*, he could have desired no better model than Henry Martyn, the young and successful competitor for academical honours; a man born to love with ardour and to hate with vehemence: amorous, ascible, ambitious, and vain; without one torpid nerve about him: aiming at universal excellence in science, in literature, in conversation, in horsemanship, and even in dress; not without some gay fancies, but more prone to austere and melancholy thought; patient of the most toilsome enquiries, though not wooing philosophy for her own sake; animated by the poetical temperament, though unvisited by any poetical inspiration; eager for enterprise, though thinking meanly of the rewards to which the adventurous aspire; uniting in himself, though as yet unable to concentrate or to harmonise them, many keen desires, many high powers, and much constitutional dejection—the chaotic materials of a great character, destined to combine, as the future events of life should determine, into no common forms, whether of beauty and delight, or of deformity and terror.

Among those events, the most momentous was his connexion with Charles Simeon, and with such of his disciples as sought learning at Cambridge, and learned leisure at Clapham. A mind so beset by sympathies of every other kind, could not but be peculiarly susceptible to the contagion of opinion. From that circle he adopted in all its unadorned simplicity, the system called evangelical—that system of which (if Augustine, Luther, Calvin, Knox, and the writers of the English Homilies may be credited) Christ himself was the author, and Paul the first and greatest interpreter.

Through shallow heads and voluble tongues, such a creed (or indeed any creed) filtrates so easily, that, of the multitude who maintain it, comparatively few are aware of the conflict of their faith with the natural and unaided reason of mankind. Indeed he who makes such an avowal will hardly escape the charge of affectation or of impiety. Yet if any truth be clearly revealed, it is, that the apostolic doctrine was foolishness to the sages of this world. If any unrevealed truth be indisputable, it is, that such sages are at this day making, as they have ever made, ill-disguised efforts to escape the inferences with which their

own admissions teem. Divine philosophy divorced from human science—celestial things stripped of the mitigating veils woven by man's wit and fancy to relieve them—forms an abyss as impassable at Oxford now, as at Athens eighteen centuries ago. To Henry Martyn the gulf was visible, the self-renunciation painful, the victory complete. His understanding embraced, and his heart reposed in the two comprehensive and ever germinating tenets of the school, in which he studied. Regarding his own heart as corrupt, and his own reason as delusive, he exercised an unlimited affiance in the holiness and wisdom of Him, in whose person the divine nature had been allied to the human, that, in the persons of his followers, the human might be allied to the divine.

Such was his religious theory—a theory which doctors may combat, or admit, or qualify, but in which the readers of Henry Martyn's biography, letters, and journals, cannot but acknowledge that he found the resting-place of all the impetuous appetencies of his mind, the spring of all his strange powers of activity and endurance. Prostrating his soul before the real, though the hidden Presence he adored, his doubts were silenced, his anxieties soothed, and every meaner passion hushed into repose. He pursued divine truth, (as all who would succeed in that pursuit must pursue it) by the will rather than the understanding; by sincerely and earnestly searching out the light which had come into the world, by still going after it when perceived, by following its slightest intimations with faith, with resignation, and with constancy, though the path it disclosed led him from the friends and the home of his youth, across wide oceans and burning deserts, amidst contumely and contention, with a wasted frame and an over-burdened spirit. He rose to the sublime in character, neither by the powers of his intellect, nor by the compass of his learning, nor by the subtlety, the range, or the beauty of his conceptions (for in all these he was surpassed by many), but by the copiousness and the force of the living fountains by which his spiritual life was nourished. Estranged from a world once too fondly loved, his well-tutored heart learned to look back with a calm though affectionate melancholy on its most bitter privations. Insatiable in the thirst for freedom, holiness and peace, he maintained an ardour of devotion which might pass for an erotic delirium, when contrasted

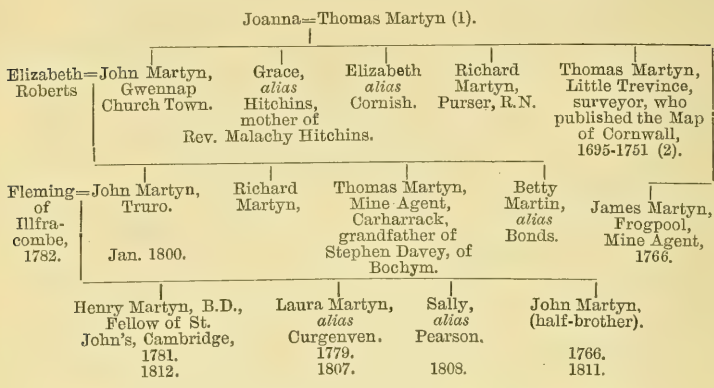
with the Sadducean frigidity of other worshippers. Regarding all the members of the great human family as his kindred in sorrow and in exile, his zeal for their welfare partook more of the fervour of domestic affection, than of the kind but gentle warmth of a diffusive philanthropy. Elevated in his own esteem by the consciousness of an intimate union with the Eternal Source of all virtue, the meek missionary of the Cross exhibited no obscure resemblance to the unobtrusive dignity, the unfaltering purpose, and the indestructible composure of Him by whom the Cross was borne. The ill-disciplined desires of youth, now confined within one deep channel, flowed quickly onward towards one great consummation; nor was there any faculty of his soul, or any treasure of his accumulated knowledge, for which appropriate exercise was not found on the high enterprise to which he was devoted.

And yet nature, the great leveller, still asserting her rights even against those whose triumph over her might seem the most perfect, would not seldom extort a burst of passionate grief from the bosom of the holy Henry Martyn, when memory recalled the image of her to whom, in earlier days, the homage of his heart had been rendered. The writer of his life, embarrassed with the task of reconciling such an episode to the gravity befitting a hero so majestic, and a biography so solemn, has concealed this passage of his story beneath a veil, at once transparent enough to excite, and impervious enough to baffle, curiosity. A form may be dimly distinguished of such witchery, as to have subdued at the first interview, if not at the first casual glance, a spirit soaring above all the other attractions of this sublunary sphere. We can faintly trace the pathway, not always solitary, of the pious damsel, as she crossed the bare heaths of Cornwall on some errand of mercy, and listened, not unmoved, to a tremulous voice, pointing to those heights of devotion, from which the speaker had descended, to this lower worship. Then the shifting scene presents the figure—alas! so common—of a mother, prudent and inexorable, as if she had been involved in no romance of her own some brief twenty years before; and then appears the form (deliciously out of place) of the apostolic Charles Simeon, assuming, but in vain, the tender intervenient office. In sickness and in sorrow, in

watching and in fastings, in toils and perils, and amidst the decay of all other earthly hopes, this human love blends so touchingly with his diviner enthusiasm, that even from the life of Henry Martyn there can scarcely be drawn a more valuable truth, than that, in minds pure as his, there may dwell together in most harmonious concord, affections which a coarse, low-toned, ascetic morality, would describe as distracting the heart between earth and heaven.

Yet it is a life pregnant with many other weighty truths. It was passed in an age, when men, whom genius itself could scarcely rescue from abhorrence, found in their constitutional sadness, real or fictitious, not merely an excuse for grovelling in the sty of Epicurus, but even an apology for deifying their sensuality, pride, malignity, and worldly-mindedness, by hymns due only to those sacred influences, by which our better nature is sustained in the warfare with its antagonist corruptions. Not such the gloom which brooded over the heart of Henry Martyn. It solicited no sympathy, was never betrayed into sullenness, and sought no unhallowed consolation. It assumed the form of a depressing consciousness of ill desert; mixed with fervent compassion for a world, which he at once longed to quit, and panted to improve. It was the sadness of an exile gazing wistfully towards his distant home, even while soothing the grief of his brethren in captivity. It was a sadness akin to that, which stole over the heart of his Master, while, pausing on the slope of the hills which stand round about Jerusalem, he wept over her crowded marts and cloud-capped pinnacles, hastening to a desolation already visible to that prescient eye, though hidden by the glare and tumult of life from the obdurate multitude below. It was a sadness soon to give place to an abiding serenity in the presence of that compassionate Being, who had condescended to shed many bitter tears, that he might wipe away every tear from the eyes of his faithful followers."

PEDIGREE OF REV. H. MARTYN, B.D. (1695-1812).

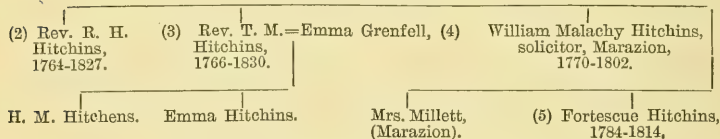


(1). Called John Martyn (1695) by Dr. Benson.

(2). This survey, which was made on foot, and occupied 15 years, was then unrivalled for minute and accurate topography.—*Gilbert*. He died a bachelor, while making a parochial survey of Devonshire. His nephew, M. Hitchins, probably assisted him, since the latter helped B. Donn to publish a map of Devon in 1765. *Gilbert*.

PEDIGREE OF THE HITCHINS' FAMILY.

(1) Rev. Malachy Hitchins, =
1741-1809.



(1) Rev. Malachy Hitchins, 1741-1809, M.A., Vicar of St. Hilary and Gwinear, Assistant Astronomer under Dr. Nevil Maskelyne, at Greenwich, and the first computer of the Nautical Almanac and Astronomical Ephemeris, 1767. For his family, and a list of his archaeological and scientific attainments—See *Gilbert's Parochial History of Cornwall*, Vol. II, pp. 221-225, and *Bibliotheca Cornubiensis*, Vol. II, p. 243.

(2) Rev. Richard Hawkins Hitchins, 1764-1827, B.D., Fellow of Exeter College, Oxford; Curate of Falmouth, Rector of Haverstock.

(3) Rev. Thomas Martyn Hitchins, 1766-1830, Vicar of Cotterstock-cum-Glapthorne, Northampton, Incumbent of St. John the Baptist Chapel of Ease, Devonport, for 32 years Registrar of the Consistory Court of the Diocese of Exeter.

(4) Mrs. Emma Hitchins, *née* Grenfell, was the daughter of Pascoe Grenfell of Marazion, 1729-1820, Commissary to the States of Holland, and sister of Miss Lydia Grenfell, 1775-1829, and Pascoe Grenfell 1761-1838, D.C.L. M.P. for Marlow and Penryn.

(5) Fortescue Hitchins, 1784-1814, Solicitor, St. Ives, author of some minor poems, and compiler of a History of Cornwall, edited by S. Drew, 1824.

* Miss Lydia Grenfell was baptised at St. Hilary, 19th November, 1775, as Lydia Grenville, and died at the old Vicarage House, Breage, 18th September, 1829. *Bibliotheca Cornubiensis*, I, p. 189.

First Set of Letters.

- 1.—*Letter to Mrs. T. M. Hitchins, London, June 24th, 1805.
2. ,, from Mr. Hitchins, and Mrs. Emma Hitchins, Stoke, July 20th, 1805.
3. ,, to Rev. Malachy Hitchins, off Falmouth, July 23rd, 1805.
4. ,, to Mrs. T. M. Hitchins, Falmouth, July 30th, 1805.
- 5.* ,, ,, Cork Harbour, August 14th, 1805.
6. ,, ,, Cove of Cork, August 28th, 1805.
7. ,, ,, Funchal, Madeira, September 30th, 1805.
8. ,, to Mrs. T. M. Hitchins, November 15th, 1805.
9. ,, Rev. Malachy Hitchins, May 30th, 1806.
10. ,, in Two Portions, first on the Hoogly River.
 Second Portion, 1806.
11. 1807.
12. Dinapore, December, 1807.
13. ,, to Rev. T. M. Hitchins, October 10th, 1809.

Letter 1—to Mrs. HITCHINS, Stoke.

(*Address missing*),

London, June 24th, 1805.

MY DEAR COUSIN,

The account of your ill-health, as (you) described (it) in (the latter part of) your former letter affected me even to tears. I cannot indeed expect to see you any more upon earth: yet for my dear brother's sake, and to those to whom you are immediately useful, I wish to regard the hour of your departure as yet far distant,—(besides that I hope to enjoy the comfort and benefit of your correspondence, tho' not of your conversation). But in this and every other particular, that concerns us, God will act according to his (own) infinite wisdom and love. As you are safe in the Lord Jesus, nothing [need—*Wilberforce*] now disquiet you or us on your account,—whether life or death—all is yours. (Your last unexpected letter for which I thank (you ?), because it was unexpected, was more cheering). May God

* Partly Published in *Journals and Letters of Rev. H. Martyn, B.D.*; edited by Rev. S. Wilberforce, M.A., 1837.

The words and sentences enclosed within parentheses were omitted from the original by Wilberforce; his principles of selection are pretty obvious. See *Journal*, p. 259.

enable you according to your desire to continue walking as on the verge of eternity, looking for and hasting to the coming of the day of God.

(In answer to the request contained in your last, I have to say that) there are not many things in the world which I would withhold from you, but with respect to these compositions, [the sermons for which you ask—*W.*] which you ask for, (I think) my mind must be changed before I send them (to you). (The arguments you offer to induce me seem not to possess that force which I look for in your reasoning). Sermons cannot be good memorials, because once read they are done with—especially a young man's sermons, unless they possess a peculiar simplicity and spirituality; which I need not say are qualities not belonging to mine. I hope, however, that I am improving—and I trust that now I am removed from the contagion of academic air, [and—*W.*] I am in the way of acquiring a greater knowledge of men and of my own heart, I shall exchange my jejune scholastic style for a simple spiritual exhibition of profitable truth. Mr. Cecil has been taking a great deal of pains with me. My insipid inanimate manner in the pulpit he says is intolerable. Sir, said he, it is cupola-painting not miniature, that must be the character [the aim—*W.*] of a man that harangues a multitude. (Lieut. Wynter called on me last Saturday, and last night drank tea with me. I cannot but admire his great seriousness. I feel greatly attached to him. He is just the sort of person, of a sober thoughtful cast, that I love to associate with. He mentioned—Lydia, I do not know why, but he could not tell me half enough about her while she was at Plymouth, to satisfy my curiosity). Witsun-week was a time of the utmost distress to me (on her account). (On the Monday at the Eclectic, Mr. Cecil speaking of celibacy said, I was acting like a madman in going out without a wife. So thought all the other ten or eleven ministers present, and Mr. Foster among the rest, who is unmarried. This opinion coming deliberately from so many experienced ministers threw me into great perplexity, which increased, as my affections began to be set more afloat, for then I was less able than before to discern the path of duty. At last I wrote to Simeon, stating to him the strongest arguments I heard in favor of marriage in my case. His answer decided my

mind. He put it in this way. Is it necessary? To this I could answer no. Then is it expedient? He here produced so many weighty reasons against its expediency, that I was soon satisfied in my mind. My turbulent will was however not so easily pacified. I was again obliged to undergo the severest pain in making that sacrifice which had cost me so dear before. Better had it been if those wounds had never been torn open). But now (again) thro' the mercy of God, I am once more at peace. What cannot his power effect? The present wish of my heart is that (there may be *never* a necessity of marriage, so that) I may henceforth have no one thing upon earth for which I would wish to stay another hour, except it be to serve the Lord my Saviour in the work of the ministry. (Once more, therefore, I say to Lydia, and with her to all earthly schemes of happiness, farewell. Let her live happy and useful in her present situation since —— is the will of God. How long these thoughts may continue I cannot say. At times of indolence, or distress, or prevalent corruption, the former wishes I suppose will occur and renew my pain: but) pray, my dear sister, that the Lord may keep in the imaginations of the thoughts of my heart all that may be for the glory of his great name. (The only objection which presented itself to my advisers to marriage was the difficulty of finding a proper person to be the wife of a missionary. I told them that perhaps I should not have occasion to search a long time for one. Sineon knows all about Lydia. I think it very likely that he will endeavour to see her when she comes to town next winter).

The time of sailing is not yet certain—the ships are getting round to Portsmouth fast. I shall leave town this week, probably not before Friday [Thursday—*W.*]. As my ship is one of the latest we shall probably not be detained long there. If we were, it would not be safe to venture to Plymouth, scarcely indeed could I wish it. [Here ends *Wilberforce's* copy or extract]. It is impossible, I fear, to write to Mr. H. by this post—as I intended—to thank him for his kind letter.

(Addendum at the commencement, before the Address).

I never returned my acknowledgment for the little hymn book, which is a memento of both. It is just the sort of thing. Instead of sending the book I intended I shall enclose in the

tea-caddy a little *Pilgrim's Progress* for you, and another for Lydia. I have not seen Mr. Wilberforce since—when I take leave of him I will enquire about the letter. Fortescue has been with me once or twice. He promised to call on me yesterday morning to go to Cecil's, but he did not come. He lodges in the same room with Gray: it is not at all the thing I should recommend. It is not convenient, however, I think for him to board in any family, because the time of his coming away from the office is uncertain. If he were serious, I could introduce him to the best possible society here,—but my acquaintance he would no more relish than they would him.

Letter 2—from Mr. and Mrs. T. M. HITCHINS.

Stoke, 20th July, 1805.

MY DEAR COUSIN,

We have received both your welcome letters* from Portsmouth, we rejoiced to hear tidings from you—tho' you are about to quit this part of the globe, we flatter ourselves we shall not be denied this pleasure, as long as we continue in the body. When we are tempted to grieve that you are about to leave us, the consideration that you are going forth in the name of the Lord represses every murmur. May the Lord continue to bless you, and make you abundantly useful both on board ship and at the end of your voyage! I trust we shall mutually pray for the spiritual welfare of each other during our absence. If we never meet again on earth, it is but a little moment ere we shall meet, I trust, before the Throne to sing "Worthy is the Lamb for ever and ever." Dear Emma is thro' mercy much recovered in health within the last week by means of bathing. Lydia, from whom we heard about 10 days ago, is quite well. She is much interested in your welfare. We were concerned to find that you had had a convulsive fit on the road. I trust it proceeded merely from the fatigue, and that you will have no return of it. If you have the key of the caddy with you, leave it with Mrs. Penn in the Gun Wharf, Portsmouth.

Adieu, my dearest Cousin.

Believe me, yours most affectionately,

T. M. HITCHINS.

* One of these is published, p. 274, of *Journal and Letters*.

STOKE.

I little expected again to hear from my beloved Cousin from English ground. On the last sabbath I supposed you exercising your ministry, as the roaring billows would admit, but I am pleased to find it otherwise, and was truly rejoiced to learn you had such an auxiliary as your excellent friend Mr. Simeon. I trust his and your preaching will not be in vain. I was considerably pained, my dear cousin, to hear of your attack on your journey. You say you are now well, therefore I will hope that for the Church's sake your health will be established. I still continue unwell, tho', on the whole, much better. Had I not mended, I intended spending a few weeks in Cornwall. Lydia, whom I heard lately from, is well, and never omits mentioning you in her letters, and, I may venture to say, what you will value still more, in her prayers also. You may probably in your voyage meet with a conveyance to England. If you *keep* a letter ready to send to us, we may have the pleasure of knowing how you go on, without waiting the painfully long time it would be to hear after your arrival in India. I shall not cease to bear you the most tender affection, and I hope to bear you in my mind, when permitted to draw nigh to that God who keepeth the feet of his saints. Farewell! May the God of all grace preserve you in your present arduous undertaking. I am restrained by time from saying more than that I am

Your affectionate——,

In our Blessed Lord Jesus,

EMMA C. HITCHINS.

July 25th, 1805.

(Address).

Rev. Henry Martyn,

On board the Union, East Indiaman,

(in red ink) Falmouth.

Portsmouth.

(Post Mark) Plymouth Dock.

Letter 3—addressed to Revd. Malachy Hitchins,* St. Hilary,
Marazion,

On board the “Union,” off Falmouth,

July 23rd, 1805.

MY DEAR SIR,

I hope you will not attribute my silence to disrespect, or conceive that I have forgotten the many obligations I owe you for the kindness you have always shewn me. I could not have remained so long without writing, if Cousin Tom had not sent me information about you and Mrs. Hitchins from time to time,—but now finding from Richard that you are still expecting to hear from me, I sit down with pleasure to fulfil a promise I had almost forgotten. After leaving Cornwall last autumn, I continued at Cambridge till February last, when I came to town expecting to sail immediately, but that not being practicable, Mr. Cecil offered me the situation of an assistant in his church, which I accepted. In April, I was appointed to a chaplaincy on the Bengal establishment on the nomination of the chairman, Mr. Grant, and at the beginning of this month left town for Portsmouth. At day-break last Wednesday the signal gun was fired by the Commodore, and the whole fleet, consisting of 15 sail under convoy of the *Belliqueux*, Capt. Byng, got under weigh from St. Helen's and sailed down the channel with a fine breeze from the N.E. When we got on board at Portsmouth, I expected to have set foot on the shores of England no more, but found to my no small surprise and pleasure that the fleet was to wait at Falmouth, till tidings should be received of the motions of the combined fleet. We came to in this harbour Friday afternoon. Could I have been certain we should have continued till now, I should have come down to St. Hilary, without doubt, for I long to see you once more, tho' it would oblige me to undergo a second time the pain of parting from you. Fortescue will have told you that we met one another in London. It was but seldom that I saw him, because he was not out of the office but at those hours of the evening in which I was most engaged: but from the conversation I had with him, there appeared to be much religious impression on his mind. I wish he had found a more useful acquaintance than Mr. Gray. To his profession he is certainly not much attached—and yet I do not think he neglects the study of it.

He informed me some time since of Mrs. Millet's removal to Liskeard. I feel much for her and you, but especially for Mrs. Hitchins at this painful dispensation of Providence, but I trust that God will send you Fortescue to be a comfort and support to you both in your declining years. I scarcely need express my great regard for Mrs. Millet. I beg you to assure her of it when you next write to her. It would have been very agreeable to me to have had my station for life in the circle of my western friends, but this world is not the place for enjoyment. A great work lies before me, and I must submit to many privations, if I would see it accomplished. I should say, however, that poverty is *not* one of the evils I shall have to encounter, the salary of a chaplain, even at the lowest, is 600 rupees a month. My situation on board ship is very pleasant; the mess, which consists of some officers of the 59th, and some young cadets and writers, is very orderly, and my cabin is large and commodious. My audience on Sundays is between two and three hundred. Richard is very well. I am to dine with him at Mr. Hocken's to-day. Give my kindest love to Mama,—as also to Miss L. Grenfell. I sent a letter addressed to Emma at Marazion, thinking she was there, but from your letter to Richard it does not appear that she is come. If you can find an opportunity of writing to me while I am here, I shall feel exceedingly obliged.

I remain, yours affectionately,

H. MARTYN.

Wednesday Evening.—I have taken my place in the coach for Marazion, so that if no dispatches arrive to night from London, I shall be with you almost as soon as my letter. I should be before it, only that I wish to pass some part of the morning at *Mrs. Grenfell's*.

Memorandum on the back in red ink, barely legible, 'probably made by Rev. M. Hitchins.

Mr. Martyn came to St. Hilary, 25th July, 1805. Dined, stayed there, and took leave of us and the garden for ever, and returned to Falmouth in the evening. Came again August 7th. in the evening, and *next day* at dinner was fetched by an express, which brought notice that the fleet had received orders to sail. Next day, August 9th, in the evening, he returned to St. Hilary again, as the orders for sailing were countermanded, but the next morning at 8½ a.m. Mr. Roberts arrived in a chaise to fetch him, as the signal gun for sailing was fired at 5 that morning, and the fleet were to be under weigh that day at 9 a.m. By an accident which detained the Union a little longer than the other ships, Mr. Martin was on board in season.

* Not in Journals and Letters by Wilberforce. A corresponding Letter is printed p. 278; but it is addressed to Rev. T. M. Hitchins, the son.

Letter 4—to Mrs. T. M. Hitchins, Stoke, Plymouth Dock.

30th July, Falmouth, 1805.

MY DEAREST COUSIN,

I am exceedingly rejoiced at being permitted to send you one more letter, as the former, if it had been the last, would have left I fear a painful impression on your mind. It pleased God to restore peace to my mind soon after I came on board—as I thought—finally. I was left more alone with God, and found blessed seasons of intercourse with him. But when your letter came, I found it so sympathizing, so affectionate, that my heart was filled with joy and thankfulness to God for such a dear friend, and I could not refrain from bowing my knees immediately to pray that God might bless all your words to the good of my soul, and bless you for having written them. My views of the respective importance of things continue, I hope, to rectify. The shortness of time, the precious value of immortal souls, and the plain command of Christ, all conspire to teach me that Lydia must be resigned—and for ever,—for tho' you suggest the possibility of my hereafter returning and being united to her, I rather wish to beware of looking forward to anything in this life as the end or reward of my labours. It would be a temptation to me to return before being necessitated. The rest which remaineth for the people of God is in another world, where they neither marry nor are given in marriage. But while I thus reason, still a sigh will ever and anon escape me at the thought of a final separation from her. In the morning when I rise, before prayer puts grace into exercise, there is generally a very heavy gloom on my spirits—and a distaste for everything in earth or heaven. You do not seem to suppose that any objection would remain in her mind, if I should return and other obstacles were removed—which opinion of yours is no doubt very pleasing to me,—but if there *were* anything more than friendship, do you think it at all likely she could have spoken and written to me as she has? However do not suppose from this that I wish to hear from you anything more on this subject—in the hope of being gratified with an assurance to the

contrary. I cannot tell what induced me to take my leave of the people in the west when I was last there, as it was so probable we should be detained; were it not for having bid them adieu, I believe I should pay them another visit,—only that I could not do it without being with Lydia again, which might not perhaps answer any good purpose, and more probably would renew the pain.

If in India I should be persuaded of the expediency of marriage, you perceive that I can do nothing less than make her the offer, or rather propose the sacrifice. It would be almost cruel and presumptuous in me to make such an application to her, especially as she would be induced by a sense of duty rather than personal attachment. But what else can be done? Should she not then be warned of my intention—before I go? If you advance no objection, I shall write a letter to her notwithstanding her prohibition. When this is done no further step remains to be taken, that I know of. The shortness of our acquaintance, which she made a ground of objection, cannot now be remedied.

The matter, as it stands, must be left with God—and I do leave it with him very cheerfully. I pray that hereafter I may not be tempted to follow my will and mistake it for God's,—to fancy I am called to marriage when I ought to remain single,—and you will likewise pray, my dear cousin, that my mind may be always under a right direction.

I will endeavour to recollect to take the key from Richard and send it as you desired. The caddy, the two little Pilgrims, and the pair of engravings were left at my lodgings, 25, New Ormond Street.

(Hiatus : Signature also missing),

me also before your letter came. She is gone to make preparations for a speedy departure from Cornwall. I never heard her mention her promise. She desired me when I wrote to send her love, and as well to the Moravian lady whose name I forget.

Monday evening.—I have had half an hour's conversation with Mrs. Daubuz.

Letter 5—to Mrs. T. M. Hitchins, Stoke, Plymouth Dock,*

Union, Cork Harbour, Aug. 14th (19th—W.), 1805,
(Date wrongly printed).

The mount continued in sight till 5 (or 6) o'clock, when it disappeared behind the western boundary of the bay. Amidst the extreme gloom of my mind this day I found great comfort in interceding earnestly for my beloved friends all over England (but especially for Lydia, yourself, and Sally). If you have heard from Marazion since Sunday, I should be curious to know whether the fleet was observed passing. Whether it was or not, I am very sure that more persons than one were praying for its preservation.

Monday, the day after, was a day of most severe trial to me. It began to blow fresh in the evening, &c.

(I found strong consolation; with that doctrinal ignorance which I had not long ago, I believe I should utterly have fainted, but I was now enabled to say in faith).

I have now free access among the soldiers and sailors—and I am ready to hope (pray—W.) that some have been (may be) awakened to a serious concern for their souls—(Capt. Olphet, Oliphant (?), as Lieut. Mc.Kenzie has just told me, said to him “Martyn has made a christian of one of my men, I believe, for he does nothing but sigh.” Who this is I have not found out—). We have a Venetian on board who speaks French,—to him I have been preaching the gospel in that language, and have given him a French Testament. Tracts and Bibles I have dispersed in numbers (but I am in want of religious books. My messmates at the captain’s table are constantly finding fault with my doctrines, I am told. This you will agree with me is a good sign). Yesterday Ireland came in sight, and to-day we came to an anchor in the cove of Cork. We are now in the midst of a vast number of transports filled with troops. It is now certain from our coming here, that we are to join in some expedition,—probably the Cape of Good Hope or the Brazils. Anywhere (for me), so long as the Lord goes with me. If it should please God to send me another letter from you, which I scarcely dare hope, do not forget to tell me as much as you can

* Printed in pp. 294-297, Ed. 1837, of the *Journals and Letters* edited by Bp. Wilberforce. Two pages of the original M.S. were missing.

about Lydia. I cannot write to her, or I should find the greatest relief and pleasure even in transmitting upon paper the assurances of my tenderest love.

(My cousin T. will remember that he owes me a letter: but we have done with debts and claims. He will not withhold the last letter he can send me in Europe. He may be assured of my kindest love and constant prayers). And now I reluctantly conclude, commending you both to God and the word of his grace. Amen.

(Addendum prefixed to the commencement).

(Hand-writing a mere scrawl).

(Cork, Aug. 15. I am now in the City, 9 miles from Cove; direct to me Union, at the Cove of Cork. I rejoice in the hope of really hearing from you—as it appears we are likely to stay long—but do not delay. I could almost wish to write you a second letter—but God bless you my beloved Cousin).

Letter 6—(First Half of a letter).

Cove of Cork,

Wednesday, August 28th, 1805.

MY DEAREST COUSIN,

I have but a few minutes to say that we are again going to sea—under convoy of five men of war. Very anxiously have I been expecting to receive an answer to the letter I sent you on my arrival at this port, bearing date August 16th; from the manner in which I had it conveyed to the post-office, I begin to fear it has never reached you. I have this instant received the letter you wrote me the day on which we sailed from Falmouth. Everything from you gives me the greatest pleasure, but this letter has rather tended to excite sentiments of pain as well as

The words and sentences enclosed within parentheses in Letter 5, were omitted from the original by Wilberforce. Two pages of the original M.S. were missing.

pleasure. I fear my proceedings have met with your disapprobation, and have therefore been wrong,—since it is more probable you should judge impartially than myself.

I am now fully of opinion that, were I convinced of the expediency of marriage, I ought not in conscience to propose it, while the obstacle of S. J. remains. Whatever others have said, I think that Lydia acts no more than consistently by persevering in her present determination. I confess, therefore, that till this obstacle is removed, my path is perfectly clear, and blessed be God! I feel very, very happy in all that my God shall order concerning me. Let me suffer privation, and sorrow and death, if I may by these tribulations enter into the kingdom of God. Since we have been lying here, I have been enjoying a peace almost uninterrupted. The Spirit of adoption has been drawing me near to God, and giving me the full assurance of his love. My prayer is continually, that I may be more deeply and habitually convinced of His unchanging everlasting love, and that my whole soul may be altogether in Christ. The Lord teaches me to desire Christ for my all in all—to long to be encircled in his everlasting arms, to be swallowed up in the fulness of his love. Surely the soul is happy that thus bathes in a medium of love. I wish no created good but to be one with him and to be living for my Saviour and Lord. O may it be my constant care to live free from the spirit of bondage, and at all times have access to the Father. This I now feel, my beloved cousin, should be our state—perfect reconciliation with God, perfect appropriation of Him in all his endearing attributes, according to all that he has promised. This shall bear us safely thro' the storm. O how happy are we in being introduced to such high privileges! You and my dear brother, and Lydia, I rejoice to think, are often praying for me and interested about me. I have of course much more time and leisure to intercede for you than you for me—and you may be assured I do not fail to employ my superior opportunities in your behalf—especially is it my prayer that the mind of my dear cousin, formed as it is by nature and by grace for higher occupations, may not be rendered uneasy by the employments and cares of this.

Letter 7.—(Single Sheet of).

Funchal, Madeira,

September 30th, 1805.

Had I begun a letter to my dearest cousin at sea, I should have been able to send a more distinct and satisfying account of myself. The state of confusion I am in here is beyond your conception. Let me hasten to say that thro' the mercy of God I am very well, and exceedingly happy in the prospect of my work. I seem to be blessed with more intimate communion with God, the nearer I approach to the place which I trust will be the scene of it. The exertion of his power over my heart calls for my highest praise—truly my soul may admire in silent astonishment his God-like omnipotence; he has suffered me almost to sink in the deep waters of corruption, that I might learn to know what is the exceeding greatness of His power to usward who believe. God knows how dearly I love you, and Lydia, and Sally,* and all his saints in England, yet I bid you all an everlasting farewell, almost without a sigh. O may God grant in his mercy that I may be a pilgrim all my days, dwelling with my heart and all my thoughts in heaven, and staying here only for the work of Christ.

Two days after I sent you my last letter from Cork, the wind changed, and we were obliged to put in again, by which means I received your letter and wrote an answer, but the pilot left the ship before I was aware—for the very same day we went to sea again—and a tedious and tempestuous voyage have we had. The first part of it was the time of my trial. To describe the variety of perplexing, heartrending, agonizing thoughts that passed thro' my mind, which united with the sickness and languor of my body to depress me, would be impossible. From day to day I continued in the same state, rising in the morning without strength or spirit to dress myself, vomiting quantities of acrid bile before breakfast. All the arguments of God's word came to me with irresistible force, but self-will is deaf to reason—the soul without the influence of grace is in a state of insanity. I felt disposed to throw away my honor, my integrity, my life, my soul, for I did not know what. At length it was suggested to me—think no more of anything but suffering in

* His own second sister, Mrs. Pearson, who died in 1808.

this life. The pleasures and comforts, such as are allowed to the rest of God's children—from them you are entirely excluded. I sat musing upon it, looking round, but could find no single ray of comfort upon earth, but what should come from the prospect of the next world. After a little time I quietly looked upon this as my portion, and my mind was made up to it. To my surprise the thought was not so overwhelming, but it solemnized me most exceedingly, and I felt weaned from the world in a degree I never experienced before.

Letter 8—(Last Sheet of Letter) addressed to Mrs. T. M. Hitchins, Stoke, near Plymouth Dock.

Dated 15th Nov., 1805; received 24th Feb. 1806).

*figures standing on the beach, and counted twelve or thirteen on the top of the bank, which appeared to be green. Presently after I saw a pole elevated with a hat or jacket on the top, and a clump of people round it, some standing, others sitting: at different places on the beach there were parties of two or three together. The rocks and surf were frightful. About this time several pieces of wreck floated by us, barrels, chest of drawers, cabin doors, &c. This was the most affecting sight of all. One of the frigate's boats coming within hail of us in her way to the island, told us it was the King George transport lost—all saved but 3 officers, one of whom was a general; the other ship was supposed to be the Britannia E. Indiaman. We were within a mile of the fatal Roccas, running directly upon it, when day-break discovered our danger. 2.—Heard nothing more all day—no ship near us. 3.—Preached on John iii, 14-15: the remark made was, that I had been talking a great deal of nonsense. This the first time they have understood enough to take offence at the peculiarities of the Gospel. Our detachment rejoined the main fleet in consequence of our loss, and were soon left astern by them. Captain much concerned at navigating in a place so much out of the usual track alone, and fired a shot for the only ship in sight to come down to us. She refused to do this, and moreover, hoisted a signal of an enemy's being in sight, so that

* See *Journal and Letters*, pp. 346-9, and *Memoir*, p. 135, for the commencement of this narrative.

one alarm succeeded another; however, they were all dissipated at night, as no enemy appeared. We passed the Roccas again in the night within a mile of it, without seeing it, tho' men were looking out on every side. "Tho' I walk in the valley and shadow of death, I will fear no evil—thy rod and thy staff, they comfort me." To-night and the former, Mc.Kenzie and myself prayed together in my cabin. 4.—Coast of S. America came in view somewhere below Cape St. Roque. Heard from the Europeans that the Britannia was lost, but that all were saved.

St. Salvador, November 15th.

We arrived at this place on the 12th, and are to wait for reinforcements from England. How I wish those ships might bring a letter from you! To-morrow the packet dispatched by the commodore sails for England, I must therefore hasten to fill up my sheet. On going ashore, I found nothing very striking in the town except the great number of negro slaves,—who seemed to carry on the whole business of the place—and the fruits, which were exposed to sale. I hastened thro' the town to the top of the hill, that I might view the country. Here I found shelter from the noontide rays of a vertical sun under an orange tree, that shot its branches over the walls of a neighbouring garden, and looked along the hills that surround the bay, and repeated, with great impression on my mind, "*O'er the gloomy hills of darkness, &c.*" How melancholy is the place. Spurious Christianity has erected her crucifixes, but the doctrine of Christ crucified remains unknown. Continuing my walk, I found a garden gate, which I entered and found myself in a grove of cocoa-nut and orange-trees, with rose-trees underneath, but no verdure on the ground. When I perceived myself observed by the slaves, I went up to the house and addressed the master of it in English and French, the latter of which he understood, and then very politely desired me to refresh myself. One slave brought fruit, and another presented me with three roses and some jessamin. Before I left him, he gave me a general invitation to his house. Thus has the Lord raised up a benevolent friend for His unworthy servant in these remote regions. Such is Senhor Antonio (Jose?) Corrè. He is a sensible sober young man, educated at a Portuguese University. He observed

that they, who objected to my preaching among the heathen, did not know the true spirit of the Gospel. Yet I have no reason to believe that he loves the Gospel, and unhappily he does not know enough of French to enable us to speak freely on any subject. Yesterday I dined with him—and in the cool of the evening walked out to see his plantations. A tropical garden, as you may imagine, afforded me all the amusement which novelty can inspire; nuts, pine-apples, water melons, coffee, chocolate, cotton, pepper, plantains, olives, were growing in rich profusion. The plantations included two small hills and a valley between them, which was watered by fine streams of water. Next Monday we mean (D.V.) to penetrate a little into the interior to see the sugar plantations. From the Cape or Buenos Ayres, whichever it be we are going against, I hope to write again to my dear cousin Emma. With respect to your sister—send her my most affectionate remembrances,—my tender regard for her is, I suppose, unalterable, but blessed be His name, He has given me a happy contentment in the thought of dying without seeing any of you any more.* God bless you all.

Cousin T. and you, I consider, you know, as one; therefore I do not make particular mention of him—under many characters he has a place in my prayers. Remember me kindly to Richard, the family at St. Hilary, Fortescue, Mrs. Millett, *your mother*—if she considers me as now at a sufficient distance,—Mr. Wilson, Lieut. and Mrs. Wynter, and my friends at Dock. I could send you a sheet or two more with pleasure, had I time, and were it not needless expense to you. Let me beg you to begin a letter at once to me—by adding a little now and then when you think of me, you will soon have a large packet to send. The simplest narrative in the world will delight me,—what texts cousin T. preached on—what sick he went to see—and a thousand nameless little occurrences will present a living picture of you to my mind. Can you send me by Mr. Corrie,† or by any other means, your profile, and cousin Tom's and Lydia's? If she would consent to it, I should wish much for her miniature. The expense attending it should be defrayed by Simeon, who is good enough to be my agent. A storm of thunder and lightning is

* See *Journal* Nov. 18, 1805, or *Memoirs*, &c., p. 140.

† Brother of the present Master of Jesus College, Cambridge, and afterwards Bishop of Madras, who joined with Martyn in translating the Anglican Liturgy into Hindoostanee.

coming on, as it does repeatedly in these climates. How happy to have the great God of nature for our friend. It is growing very late, and I know not that I have left unsaid anything I particularly wished to say. Once more farewell—at each remove I will say farewell.

P. S.—Gen. York lost his life by his obstinately wishing to escape with a large sum of money: he left the ship too soon: he sank in the water and rose no more. As there were a great many sharks round the ship, it is supposed he was seized by them and devoured.

Letter 9—to Rev. Malachy Hitchins, St. Hilary, Marazion,
Cornwall.

Aldeen Gardens, Serampore, East Indies,

May 30th, 1806.

My Dear Sir,

I have found no difficulty in remembering the promise I made you of writing on my arrival in Bengal. Often in affectionate recollection have I been visiting St. Hilary and conversing with my dear friends there, and sometimes in moments of distress wishing myself back amongst you. The drawing of the vicarage, which Fortescue, providing against human infirmity, left me as a memento, has re-called St. Hilary at times with too great interest. In the tempestuous nights off the Cape, when I was almost dying with sickness, and could do nothing but gaze round the sides of my cabin, the sight of the picture often made me long to exchange my rolling prison for the little parlour, and regret that I could not stroll thro' the walks of the garden instead of going out only to slide down the lee side of a quarter deck.

But I have been in general, and am now, perfectly well pleased with my undertaking, as I am more and more convinced, from what I see in this country, that it is at least a labour of love, and will certainly be ultimately successful.

It will be needless for me to detail the particulars of the voyage to you, as I suppose you have heard from Cousin T. as much about it as was worth mentioning. I should now indeed hardly be inclined to describe anything that I have seen, because

nothing strikes me with novelty. The first foreign country I saw, which was Madeira, awaked all my attention—I detected in a moment everything that differed from England. The houses, carriages, dress of the people, modes of living—were all new to me, and afforded me constant amusement. The hills of that island, covered with orange trees and vines, were also both new and delightful.

The part of South America which we next visited, being a settlement of the same people, had less to excite curiosity after we had visited Madeira. Still the natural productions of a tropical climate open new sources of wonder—every flower and shrub and tree were so new, that I was at a loss which to look at; and, after all, my attention could hardly distinguish the cotton shrub from the coffee plant, or pepper from kidney beans. The richness of vegetation in these countries is too great to be pleasing—it is overpowering. A burning sun and fat soil bring forth immense trees and strong aromatic plants with astonishing rapidity. The verdure is rich and infinitely diversified, but the pleasure of sylvan scenery is gone. I feel always more terrified than pleased. To walk in the sun is death: the woods are impervious from the long stringy plants, that have woven a net to the top of the trees. Sitting down in the shade is an invitation to insects; instantly they come, and tho' not in general mischievous, they are frightful from being ten times the size of their relations in England. The only way I could find of being comfortable in St. Salvador was to sit in the house all the day, and in the cool of the evening walk to and fro on an open road.

There seems to be something extremely gloomy in the life of a settler in a province of America or India. From a want of that mixed society, which produces circulation, the rich Portuguese planters seemed to be very unhappy. Having no one near them but slaves, whom they consider precisely as cattle, they sit in the verandahs all the day: no sound to be heard but the buzzing of insects, no friend to interrupt their long solitude.

At the Cape of Good Hope we seemed to be once more in England; so nearly do the manners of the Dutch resemble ours. Here in the room of sickly bananas and mangos we met with honest apples and pears, tea and bread and butter for breakfast

instead of the indescribable slops of the Portuguese, and the dinner table spread with solid joints, so grateful to an English stomach after the succession of dirty little basons of greasy mixtures, which constitutes a Portuguese feast. The land about the Cape seems to possess few natural advantages, except some gardens near the town, which the industry of the Dutch has made productive. I saw nothing but a few vineyards. The white sand, that lies over all the ground, would be very fatiguing to the eye, had not a kind providence relieved the scene by adorning the whole land with the most beautiful heaths and shrubs.

After a five weeks' stay at the Cape we sailed for Madras, and reached it in a little more than 10 weeks, passing by the way in sight of Ceylon, Tranquebar, Pondicherry, and other places on the coast. A number of interpreters came off immediately, clad in white muslin, and on going ashore the officious Asiatics crowded about us to the number of 200, I suppose, to offer their services; with one man to carry an umbrella, another as interpreter, another as waiting servant, and a proportionate number of porters in my train. I was obliged to bear all; these had all attached themselves to me, without so much as consulting me on the subject; and deaf to my assurances, that I did not want quite so many people, they made a low bow, and continued as before. There was nothing remarkable in this first part of India which I visited: it was by no means so romantic as America. Vast numbers of black people were walking about with no dress but a little about their middle, but no European was to be seen except here and there one in a palanquin. I lived during my stay with Mr. (Oller?),—in office. Once I preached at Fort St. George, tho' the chaplain hardly knew what to make of such sort of preaching; they were however not offended. Finding that the people would bear to be addressed plainly, and not really think the worse of a minister for dealing closely with their consciences, they determined, they said, to preach the gospel as I did, but I fear that one, if not both, has yet to learn what the gospel is. I breakfasted one day with Sir E. Pellew, the Port Admiral at Madras, and met S. Cole his captain. I was perfectly delighted to find one with whom I could speak about St. Hilary and Marazion; we spoke of every person, place and thing we could think of in your neighbourhood.

We staid but a few days and came on to Bengal, May 5th, and arrived at Calcutta the 15th. By the attention of Mr. Brown, the senior chaplain, I am now very comfortably settled at Serampore, about 12 miles up the river Hoogly. My habitation is a pagoda, which Mr. Brown fitted up as a sort of summer house in his garden, when it was forsaken by its god Bulhub some years ago. Notwithstanding the vicissitudes of life, who could have guessed a few years ago, that I should have at last found a house in an Indian pagoda? Its internal construction is so intricate, that I cannot attempt to describe it, tho' I am now sitting in it. The Governor-General, whose levee I have attended, has not yet fixed my destination. Wherever it be I shall continue here a year, if possible, to learn the languages. I have not room to say much about Bengal, I find the country and climate delightful, and my health better than it was in England.

You will not, I hope, let me lose the pleasure of a letter to (from?) you. Direct to me at Rev. D. Brown's, Calcutta. My kindest love to Mama, Mrs. and Mr. Millett, Richard, and Fortescue—all friends at Marazion—Mrs. Grenfell and Lydia—Mr. Moyle and his family—Miss H. Millett and Miss Lydia Hamblyn.

Have you found a good minister for the chapel at Marazion? I am using all my interest and arguments to induce men rather to come to India than go to such little places. I do not mean to undervalue Market Jew, but 60 millions of people in heathen darkness are calling loudly on all the ministers of England to send some to help them.

I remain, my dear Sir, with much respect and regard,

Yours most sincerely,

H. MARTYN.

Letter 10—(Portions of) without date, or address, probably 1806, September or October, to Mrs. T. M. Hitchins.

On the Hoogly River.

I have been just reading over all the letters I have ever received from my dearest cousin Emma, and her husband, my beloved brother, and I cannot refrain from telling you once more, what great affection I bear you, and how fervently I long after you all. I wish I had you both here to thank you from

my heart for all the kind consolation and advice you afforded me at the time of my leaving Europe. With a mind somewhat more dispassionate than at that period, I have been reviewing the successive letters you sent to London, Falmouth and Cork, and have been delighted to observe how the sympathizing heart of my dear cousin changed with all my changes. There is also a letter of cousin Thomas's addressed to me, when I was without Christ, an alien from the commonwealth of Israel, having no hope and without God in the world. When I think of these things, my heart is hot within me, and I am constrained to say, what hath God wrought! and what shall I render unto the Lord for all the mercies He hath done unto me! Dear cousin, Thomas, who knows what I was, how vain, how wise in my own eyes, will join with me in saying, that nothing is impossible with God. Almost excluded from the hope of mercy, even by the word of God itself, He yet had compassion on me, and now to Him be the praise and to Him be the glory for ever. How does it become me to walk humbly, lest being puffed up I fall into the condemnation of the devil. O my beloved sister, what hath God done and what will he do for us who are his children? O the electing love, the high sovereignty, the resistless power and the unfathomable depths of loving-kindness and grace of Him, who hath wrought redemption for us! If the grace of God is so sweet now, notwithstanding our sin and confused notions, what is there awaiting us in eternity?

My brother Corrie brought me your last short letter, and cousin Thomas's in the same sheet, and at the same time Lydia's. They arrived the 20th of September; at the beginning of that month, I had sent by the "Sarah Christiana" letters to you, Lydia, Sally, Mr. Grant, and Simeon, and on the 14th, by the fleet, letters to Lydia, Mrs. Curgenvin, Simeon, Sargent, and W. Hoare. I find by your letter that you had not received mine from the Cape. The delay I suppose was occasioned by its being sent by another ship. There is no ship about to leave India for England that I know of, the occasion of my writing to you now is purely to gratify my own feelings.

I am now in my budgerow or barge about 100 miles up the river from Calcutta, proceeding to my station—and for the first time alone with the natives. I am as happy as I can well be in

such a situation, and Christian friends are near to my mind almost as if I saw them. Much of my time is spent, perhaps too much, in thinking of Lydia. I think so long and so fondly of her, that I generally find at the conclusion of my reveries, that I have been only employed with idolatrous industry in setting her up on a pedestal, and then comes the painful work of taking the idol down again. I suppose from what you said that you saw dear Lydia's letter. The avowal of her regard affected me so strongly, that I could not forget it day or night. How it justifies the propriety of my application to her, if that needed any justification! Since the receipt of that letter, I have scarcely a doubt left of our father's having designed her for me, or rather for this country. Yet I am too conscious of my unworthiness of such a gift from God not to feel, that it does not become me to be too sanguine. May the Lord help me patiently to wait for and thankfully to receive every dispensation. Of all who will feel pain at her departure from England, you will suffer most, but your connection with a husband and family is a tie that supersedes every natural claim: while here I have not only no relation, but not a single soul of any description, to whom I can unbosom myself. But besides that, her sphere of usefulness here will be inconceivably great. Upon all accounts then you will make your natural affection give way to the general interests of the church of God, and as well to the comfort of your unworthy brother. As I expect that she will have left England two months before this reaches you, I think it needless to address any more letters to her. If anything should happen to detain her, she will receive application from Miss Corrie, who is coming out to her brother, and from some other young woman, whom Mr. Chamberlain, the Baptist missionary, has sent for, to accompany her. We all rejoice at the prospect of a great increase of Christian society in this country—there will be then nothing wanting to make it a paradise.

Such at least is my opinion of it; some take an unaccountable dislike to everything in it from the first moment of their arrival, and everything seems to go wrong with them; but they come as exiles from home. There is not one of the twelve missionaries or their wives, but who is delighted with it—and to myself everything I see or do is a source of pleasure. In the cloudy climate of England I was always oppressed with the body, but

here I feel as light as air, and go rejoicing all the day long. By thus living, as it were, faster, life is probably shortened, and by-and-bye I may feel the depressing and relaxing influence of the climate upon the body as well as the mind. But to return from my digressions to the favourite theme. As soon as she arrives in the river, Mrs. Brown (a most sensible and zealous woman) will go down 50 or 60 miles to bring her up, so that she will not have the least trouble, and in ten or twelve days I can be down from Dinapore. If all this be according to the Lord's will, I shall be called down about this time twelve months; and now as I pass along, I please myself with the idea of visiting these places the next time in company with Lydia, and of walking with her morning and evening on these delightful banks. "Ah"! you say, "thus we form schemes of terrestrial bliss. Is the uncertainty of life taken into your account?" I do desire to consider it and each (?) as forming part of my future prospects of joy—and I am sure my dear Lydia much more so—insomuch that if it shall please our God to withdraw one of us from this world before we meet, the survivor will have grace to look forward with real delight to a happier meeting on the banks of the river of the water of life, proceeding out of the throne of God and the Lamb. But I have need of much prayer at this time to have my every thought brought into subjection to the gospel of Christ. The fashion of this world passeth away, and therefore what remaineth but (?) that they that have wives be as they that have none. Marriage, with all its consolations, opens new sources of care, and is reserving one or the other for the severest of all temporal afflictions. While keeping these sorrowful certainties in view, there will be less danger of our expectations being excessive.

(Cætera desunt).

Letter 10—(Commencement lost), 1806.

In beginning my second sheet I shall follow cousin Thomas's example, and extract from my Journal, (pp. 495-507).

Lord's Day, September 15.—Mr. Jefferies, to the great satisfaction of all the serious people, began to read the homilies at the Presidency Church, stating as his reason

the great discrepancy in doctrine they had lately been hearing from that pulpit. The first he took was the homily on salvation. So his part is decided. (Mr. J. is, we fear, not a converted man, but within two or three months he has ranged himself on our side, and preaches the gospel). At the Mission Church at night I felt very unwell, and unfit to preach, but I was enabled to speak on 2 Cor. vi, 17, 18.

15. Grieved at the necessity of tearing away the affections from the creature. How every state of human life is embittered by sin! If affliction be our lot, we cannot but sigh at the pain of it; if prosperity, the heart finds an idol and then comes the pain of separation. Went up to Serampore and read up a series of newspapers just arrived from England. The successive death lists from day to day for several months, when inspected at the same time, strike very forcibly. How swiftly we pass! What should I do without Christ as an everlasting portion? How vain is life, how mournful is death, how terrible eternity without him!

16. Passed the day with my moonshee in the language, and in the evening wrote to Lydia.

17. The blaze of a funeral pile this morning near my pagoda drew my attention. I ran out, but the unhappy woman had committed herself to the flames before I could reach the spot; but the remains of the two bodies were visible.

At night, while I was at the mission-house, Mr. Chamberlain's arrival was announced from up the country. As we were rejoicing at the thought of seeing him and his wife, we found that she had that day died of child-birth in the boat. I do not know that I was ever so shocked. My soul was sick of everything in this world, which God has so marked with misery. I felt a reluctance to every worldly connection.

18. Yesterday's events still hang upon my mind.

19. Happy all day in the love of God.

20. Went down to Calcutta and had the happiness of meeting our newly arrived brethren, Corrie and Parson. Rode out with them on the course in Mr. B's carriage, tho' it appeared as if I meant to exhibit my re-inforcement.

21. *Lord's Day.* Preached at the President's Church from Romans iii, 19-21, on justification by faith, and for the first

time vindicated myself from Dr. Ward's charges against me for schism, by shewing at considerable length that all my doctrines were strictly according to the Church of England. The sermon had the effect of convincing, or at least of shutting the mouths, of gainsayers.

22. Returned to Serampore with Mr. Brown and two of the missionaries. We had suitable conversation and hymns, and with great joy did we sing the jubilee.

24. Went down to Calcutta and found letters from Lydia, Emma, T.M.H., etc.. My affections of love and joy were so excited by them, that it was almost too much for my weak frame. My dearest Lydia's letter, tho' grateful enough to my heart, left somewhat of a sorrowful effect, occasioned, I believe, chiefly by a fear of her suffering in any degree on my account, and partly from the long time and distance that separate us, and the uncertainty, if ever we shall be permitted to meet one another in this world. In the evening the Lord vouchsafed me close communion with Him on this subject, and enabled me to commit the affair with comfort and confidence into His hands.

Wherefore didst thou doubt? Does He not love us both far better than we love one another?

25. My friends somewhat uneasy about what may be the effect of the solitariness of my life during the next year, but my Lord is with me, "Thy rod and Thy staff they comfort me." I go on His errand, and I know that He is and will be with me.

26. Employed as usual. Carey and Marshman sat with us in the evening.

27. Mr. Chamberlain breakfasted with us, and much pleased me by his christian simplicity and remarkable zeal. Went down to Calcutta.

Lord's Day. Limerick preached an intemperate sermon against the doctrine of justification by faith, and other parts of the gospel. One thing grieved me, because I thought it might do harm—he said: "notwithstanding all the ingenuity which the modern advocates of this doctrine have employed to evade the force of St. James ii, one verse still baffles their utmost efforts. "Ye see then how that by works a man is justified, and not by faith only." It is the Lord's own truth, which we

preach, and he will make it appear. I know not what more can be said to convince the gainsayers. At night Corrie preached at the Mission Church on 2 Thessalonians, i, 7-10.

29. Mr. Des Granges the missionary came to us from Vizagapatam. At night dined at the Governor-General's, and found myself sitting by the side of Dr. Ward, my old opponent. The attention of many was turned to us; they possibly expected a physical or a theological combat.

30 Remained alone at Calcutta, making preparations for my departure.

October 1. Preached at night at the Mission Church on Ephesians ii, 19-22.

2. Went up to Serampore, and found them all still full of the happy season they had enjoyed the preceding Monday, when Mr. Des Granges was married to Miss Ross in my pagoda.

3. Crossed the water with Corrie and walked with him over Sir G. Barlow's park.

4. Went to Calcutta, and with Corrie drank tea at Mr. Rolt's [not legible], where we met a party of missionaries with their wives, old Captain Wickes, and others of the people of God.

5. *Lord's Day.* Jefferies quietly continued his homilies. The clearness, with which the truth was exhibited, was rejoicing to our hearts. In the evening (Parson failing) Corrie preached on John ii, 1-2.

6. Officiated at the evening worship of a pious family, and found my heart greatly enlarged. In the morning attended the Governor's levee with my two friends. The Governor-General was as marked as possible in his attention to me. Would that it were a regard for the truth!

7. Long conversations with Gholan Hussein the Mussulman, and Bholamath Roy the Brahmin. Fixed on a budgerow.

8. Preached at night at the Mission Church on Isaiah lii, 7, on the arrival of our two new ministers, but was much grieved and ashamed at the extreme coldness with which I could speak on so delightful a text.

9. At Serampore we attended a sort of love-feast at the Mission-house. About 50 Bengallee converts sat down to supper with us—English and Bengallee hymns were sung.

10. The Baptist missionaries, Mr. Des Granges, and some of their wives, Messrs. Brown, Parson, and Corrie, and old Captain Wickes, met at my pagoda this evening for the purpose of commending me to the grace of God before my departure. My soul never before had such divine enjoyment. Mr. Brown opened the prayer meeting, Des Granges followed : then I prayed—afterwards Marshman, and Corrie closed it in a prayer which acted like a strong cordial to my heart. Even now, my dear cousin, while I transcribe, my spirit is again kindled at the recollection of this memorable day. The Lord vouchsafes to be with us also in India. Adjourning to the house we continued in conversation and singing. My joy was too great for my body. I was in actual pain, and felt only a desire to break from this tenement of clay to join in the high praises of the saints above. “May I go in the strength of this many days! My soul doth magnify the Lord, and my spirit hath rejoiced in God my Saviour.” How sweet to walk with Jesus—to love Him and to die for Him !

11. Went down to Calcutta with Carey, and in the evening met some of the missionaries in a pious house. The blessed God again visited my soul in His power, and all that was within me blessed His holy name. I found my heaven begun on earth. No work so sweet as that of prayer and a life spent in the service of God.

12. *Lord's Day.* Corrie preached for the first time at the Presidency on Galatians vi, 14. Thus the people of Calcutta hear another and a noble witness to the truth. At night I took leave of the dear people of God—with preaching on Acts xx, 32.

13 and 14. Spent at Serampore, and much employed in conversation and prayer with the missionaries, who rejoice at my being sent up into Hindoostan at this time, when the Governor-General has forbidden them to act.

15. Bid adieu to the family at Aldeen (in Serampore), and carried away with me Mr. Brown, Parson and Corrie, who came to accompany me a few days up the river.

As we passed the Mission-house, Marshman could not help coming on board and giving us a prayer. Reached Chandernagor, the old French settlement, that night. There are two Capuchin

Italian friars here; but we had not time to visit the fathers. To our French host we succeeded in making known the gospel.

After an interval of a week or two I resume my journal.

October 16. Walked on from Chandernagor to Chinsurah, the Dutch settlement, where we passed the day with Mr. Forsyth the missionary, and enjoyed great happiness in the blessing and presence of our God. Mr. F. came on with us in the evening to Bandell, a Portuguese settlement, where we parted with affectionate prayers.

17. Mr. Brown and my other brethren being about to leave me to-day, we spent the whole morning in a divine ordinance, in which each of us read a portion of scripture and prayed. Mr. B's word from Joshua, 1, 9, *Have I not sent thee?* was very suitable. Let that be an answer to my fears, O my Lord, that I am in thy work, and shall therefore fight no enemies but thine. Parson read 2 Timothy iv, where, speaking of the persecutions to be endured, he adds—*but out of them all the Lord delivered me.* There is therefore an end to the afflictions of the righteous. P. too prayed with us. It was the first time he ever spoke in social prayer, and the occasion was so affecting that we shall none of us forget it. It was the offering to God of a broken heart, and tho' his tears prevented him from proceeding; we had enough to convince us that his heart after many a struggle is truly given to God. After they went away a violent hurricane came on, which closed the rainy season.

18. Began the Sanscrit grammar, and learnt some Arabic roots.

19. *Lord's Day.* The first solitary sabbath spent among the heathen—but my soul not forsaken of God. I well perceived, that the prayers of dear friends were instant for me, and a great part of the time was occupied in delightful intercession for them. Indeed everything I read or thought of seemed to be carried home to my heart with ineffable sweetness and power. In my evening walk ashore saw three skeletons.

20. Attracted this evening by the satanic music of the idolaters, I went to see the worship of Dhoorga, the bloody goddess. It was a repetition of the same melancholy scene as may be witnessed here constantly. I stammered much longer than I could be understood with the only Brahmin there, who could speak Hindoostanee.

22. A Brahmin, about my own age, was performing his devotions in the river early this morning, just as I was going to prayer. I was struck with the conviction of God's sovereignty, whose mere pleasure had made such a difference in all the external circumstances of our lives. Let not that man's extreme earnestness rise up against me at the last day! With what intense devotion he seemed to worship an unknown God! This day they performed the annual ceremony of committing to the sacred stream the effigies of Dhoorga. These were figures in relief on a section of a circle, gorgeously bedecked with tinsel, and kept in each boat under a silk awning. Each village furnished its Dhoorga; and about half-a-dozen of them were assembled, when I passed through them. As the boat went along, they turned the front of their images towards me, and at the same time blew a blast with their trumpets, evidently intending to gratify me with a sight of what appeared to them so fine. Had their employment been less impious, I should have returned the compliment by looking, but the least I could do was to turn away. Walked in a village to-night, and tried to converse with the men. The women and children fled at the sight of a white man.

23. Arrived at Cutwa, and spent the evening with Mr. Chamberlain the Baptist missionary. He lives there in deep solitude—not an European within many miles of him. The dark walls of his bamboo dwelling are sufficient to inspire melancholy, but to add to this, before his window in the garden is the tomb of his first wife. I thought him wise in writing to England for some one to come out to him; and at his request gave him Lydia's address, that if possible, the person might have the advantage of coming out with her.

24. Mr. C. came on with me, and passed the day giving an account of his conversion and call to be a missionary. In my walk, returning after the night had come on, I passed between the river and a party of eight jackals. They waited until I passed.

25. At sunset came to on the eastern bank. The opposite bank was very romantic, adorned with a stately range of very high forest trees, under which the deep shade seemed just to correspond to the painter's conception. I enjoyed great solemnity of thought, and much comfort in reflecting that God

always knows whereabouts his people are in this wilderness, and will supply them with just what they want. It was the day I began my first sheet to you, and I thought of you and Lydia incessantly—commending you earnestly to the grace of God. Returning again late I saw a wild boar of very large size galloping parallel to the river.

26. *Lord's Day.* First part spent happily. In the evening walked into a village with some tracts. The women and children fled, and I thought no opportunity occurred to see if any could speak Hindoostanee. However this was followed with a great sense of guilt. Alas! while Satan is so active in destroying their souls, does it become the servants of God to be lukewarm? Lost much time and peace at night in forming schemes about the propagation of the gospel, which had more of romance and pride than of wisdom or humility.

27. Arrived at Berhampore, the first station of our troops. In the hospital, while I was speaking to a soldier, who was said to be dying, a surgeon came in. I went up to him, and made a speech apologising for entering the hospital without the permission of the surgeon. After looking at me he said softly: "Bless me, it is Martyn." I soon recognised my old schoolfellow and townsman, John Marshall. Thinking that by his interest I might be able to preach to the 150 sick men who were there, I determined to stay part of the next day.

28. Rose very early and was at the hospital by daylight; but after waiting a long time, wandering through the wards, hoping the men would get up and assemble, I went away amid the sneers and titters of the common soldiers. It is extraordinary, that I seldom or ever meet with contempt on account of religion except from Englishmen, and from them invariably. A prophet is not without honor, *save* —. I confess I feel a sort of disgust towards my countrymen. An English saint is undoubtedly one of the greatest characters on earth. His native solidity softened by grace makes him venerable; but the pride and contempt of God so remarkable in the bulk of the nation seem to be the forerunners of a humbling stroke. As a Danish captain said here: "there is no speaking to an Englishman now." One of the greatest crosses ministers are called to bear, as my dear brother cousin T. knows, is that we are obliged to take pains to

make people hear us, as I was this day. It is such a struggle between a sense of modesty and of duty, that I find nothing so painful. I could force my way anywhere to introduce a brother minister, but for myself I act with hesitation and reluctance. Be instant—*out of season*: how one's feelings revolt at it! Perhaps you will say I was literally *out of season* by going when the people were in bed: but in this country it is the time for action. I could not expect them to assemble in the heat of the day.

[Cætera desunt.]

Letter 11—(Commencement lost: 1807,) probably to Rev. T. M. Hitchins.

deprivation is less, considering the number of her sons and daughters. Lydia's letter by this fleet gave the most delightful accounts of dear cousin Emma's health—of her being *robust* and able to walk to and from Dock, &c., but yours of a somewhat later date I am sorry to see does not confirm this intelligence, and so I am unwillingly obliged to cancel the congratulations I had written in the former sheets. Indeed all my Europe letters this season have brought me such painful news that I almost dread receiving another. Such is the vanity of our expectations. I had been looking out with more than ordinary anxiety for these letters, thinking they would give me some account of Lydia's coming—whereas your's and her's have only wounded me, and my sister's,* giving me the distressing tidings of her ill-health, makes my heart bleed. O it is now that I feel the agony of having half the globe intervening between us. Could I but be with her: yet God who heareth prayer will surely supply my place. From Sally I expect neither promptness nor the ability to console her sister. This is the first time Sally has taken up her pen to write to me, and thought an apology necessary for her neglect. Perhaps she has been wrapt up in her dear husband, or her dearer self. I feel very angry with her. By (but?) my dear faithful Lydia has more than compensated for all the neglect of my own relations. I believe she has sent me more than all the rest in England put together. If I had not loved her before, her affectionate and constant remembrance of me would win my heart.

* Mrs. Laura Curgenvven: born January, 1779, died in the year 1807.

You mention the name of your last little one (may she be a follower of her namesake!). It reminds me of what Mr. Brown has lately written to me. He says that Mrs. B. had determined her expected one should be called after me : but, as it proved to be a girl, it was called *Lydia Martyn Brown*, a combination that suggests many reflections to my mind.

And now I ought to begin to write about myself and India : but I fear you are not so interested about me as you used to be ; yet the church of God I know is dear to you always ! Let me speak of the ministers. The gospel was preached before the Governor-General by seven different evangelical chaplains in the course of six months. Of these five have associated, agreeing to communicate with each other quarterly, reports of their proceedings. They are Mr. Brown at Calcutta, Thompson at Cuddalore, Parson at Berhampore, Corrie at Chunar, and myself here. Corrie and myself, as being most similarly employed, correspond every week. He gives all his attention to the languages, and has his heart wholly towards the heathen. He has set on foot four schools in his neighbourhood, and I four here along the banks of the Ganges, containing 120 boys ; he has nearly the same number. The masters are heathens,—but they have consented with some reluctance to admit the christian books. The little book on the parables in the dialect of Bahar, which I had prepared for them, is now in the press at Serampore ; for the present, they read with their own books, the “ Sermon on the Mount.” We hope by the help of God to enlarge the plan of the schools very considerably, as soon as we have felt the ground, and can advance boldly.

Respecting my own immediate plans, I am rather in the dark. They wish to engage me as a translator of the Scriptures into Hindoostanee and Persian, by the help of some learned natives ; and if this plan is settled at Calcutta, I shall engage in it without hesitation, as conceiving it to be the most useful way in which I can be employed at present in the church of God. If not, I hope to begin to itinerate as soon as the rains are over ; not that I can hope to be easily understood yet, but by mixing familiarly with the natives I should soon learn. Little permanent good, however, can be done, till some of the Scriptures can be put into their hands. On this account I wish to help forward this work as quick as possible, because a chapter will speak

plainly in a thousand places at once, while I can speak, and not very plainly, but in one. One advantage attending the delay of public preaching will be, that the schools will have a fair run, for the commencement of preaching will be the downfall of the schools. I have my tent ready, and would set out with pleasure to-morrow, if the time for this work were come. As there is public service here every *Lord's Day*, three days' journey is the longest I can take. This may hereafter prove an inconvenience; but the advantages of being a Company's servant are incalculable. A missionary not in the service is liable to be stopped by every subaltern; but there is no man that can touch me. Amongst the Europeans at this station I am not without encouragement. Eight or ten, chiefly corporals or serjeants, come to my quarters Sunday and Wednesday nights for social worship; but it does not appear that more than one are truly converted. The commanding officer of the native battalion and his lady, whom I mentioned in my last, are, I think, increasingly serious—but the fear of man is their snare. Mrs. Y. (Young?) says that with Lydia to support her, she could face the frown of the world. I had been looking forward with pleasure to the time when she *would* have such support, and rejoiced that Lydia would have so sensible and hopeful a companion—but we have just heard that they are ordered to Berhampore, so I shall be once more left alone.

I have another congregation on Sunday afternoons, consisting of about 100 black women, Roman Catholics, Portuguese, Mahometans, and Hindoos, belonging

(Cætera desunt).

Letter 12.—Probably to Mrs. T. M. Hitchins.

DINAPORE, December, 1807.

MY DEAR COUSIN,

Your letter after so long a silence was a great relief to me, as it assured me of your undiminished affection; but I regretted you had been so sparing in your consolations on the subject of my late disappointment. Remember it was to you I used to unbosom all my anxieties, and I still look to you for that

sympathizing tenderness, which no other person perhaps feels for me, or at least can venture to express. How every particular of our conversation in the journey from Redruth to Plymouth Dock returns to my mind ! I have reason indeed to remember it—from that time I date my sorrows—we talked too much about Lydia. Her last letter [p. 132, Journal] was to bid me a final farewell, so I must not write to her without her permission ; she wished she might hear by you that I was happy. I am therefore obliged to say, that God has according to her prayer kept me in peace, and indeed strengthened me unto all patience and long-suffering with joyfulness. At first, like Jonah, I was more grieved at the loss of my gourd, than at the sight of the many perishing Ninevehs all round me ; but now my earthly woes and earthly attachments seem to be absorbing in the vast concern of communicating the gospel to these nations. After this last lesson from God on the vanity of creature love, I feel desirous to be nothing, to have nothing, to ask for nothing, but what he gives. So remarkably and so repeatedly has he baffled my schemes of earthly comfort, that I am forced at last to believe his determination to be, that I should live in every sense a stranger and pilgrim on the earth. Lydia allows me not the most distant prospect of every seeing her ; and if indeed the supposed indelicacy of her coming out to me is an obstacle that cannot be got over, it is likely indeed to be a lasting separation : for when shall I ever see it lawful to leave my work here for three years, when every hour is unspeakably precious ? I am beginning therefore to form my plans as a person in a state of celibacy, and mean to trouble you no more on what I have been lately writing about so much. However, let be allowed to make one request ; it is that Lydia would at least consider me as she did before, and write as at that time. Perhaps there may be some objection to this request, and therefore I dare not urge it. I say only that by experience I know it will prove an inestimable blessing and comfort to me. If you really wish to have a detailed account of my proceedings, exert your influence in affecting this measure ; for you may be sure, that I shall be disposed to write to *her* letters long enough, longer than to any other, for this reason among others, that of the three in the world who have most love for me, *i.e.* Sally, Lydia, and yourself, I believe that, notwithstanding all that has happened,

the middle one loves most truly. If this conjecture of mine is well founded, she will be most interested in what befalls me, and I shall write in less fear of tiring. My bodily health, which you require me always to mention, is prodigious, my strength and spirits are in general greater than ever they were, and this under God I ascribe to the susceptibility of my frame, giving me instant warning of anything that may disorder it. Half-an-hour's exposure to the sun produces an immediate overflow of bile; therefore I take care never to let the sun's rays fall upon my body. Vexation or anxiety has the same effect. For this, faith and prayer for the peace of God are the best remedy.

Since my last letter, written a few months ago in reply to cousin T., I do not recollect that anything has happened. Dr. Buchanan's last publication on the Christian institution will give you the most full and interesting accounts of the affairs of our Lord's kingdom in India. The press seems to us all to be the great instrument at present. Preaching by the European Mission here has in no instance that I know of been successful. Everything in our manner, pronunciation, and doctrine is so new and strange, that to instruct them properly *vivâ voce* seems to be giving more time to a small body of them than can be conveniently spared from the great mass. Yet on the other hand I feel reason to be guarded against the love of carnal ease, which would make me prefer the literary work of translating to that of an itinerant: upon the whole, however, I acquiesce in the work that Dr. B. has assigned me—from conviction. Thro' the blessing of God, I have finished the New Testament in the Perso-Arabic-Hindoostanee,—but it must undergo strict revisal before it can be sent to the press. My assistants in this work were Mirza Mahommed Ali, and Moorad Ali, two Mahometans, and I sometimes hope there are convictions in their minds which they will not be able to shake off. They have not much doubt of the falsehood of Mahometanism, and the truth of the gospel, but they cannot take up the cross.

The arrival of Jawad Sabat, our Arabian brother, at Dinapore, had a great effect upon them; they immediately perceived that his rank and learning set him beyond their contempt. This dear brother is now living with me, and, tho' he sometimes

makes me tremble for his soul, is a greater comfort to me than I can express. How shall I describe him? He seems naturally affectionate and melancholy,—naturally also, proud and passionate;—but the grace of God works wonders for this wild man of the desert. His conviction of sin seems to be very deep, his confessions shew a knowledge of the heart, which always puts me to shame, yet prove that he does not stand fast in the liberty wherewith Christ has made us free. The constant sinfulness of his heart, he says, destroys his spirits, and I believe it, for he seems never to speak but what he feels, and his confessions are generally accompanied with tears. I endeavour to shew him, that we are complete in Christ, that sanctification is by the *spirit* unto obedience and the *gift* of God through Christ—that his experience is analogous to that of the saints in general, even St. Paul, and is therefore a token of good. But I feel my unfitness to do good to this heaven-born soul. Had he a duly holy exemplar before him, he would readily copy it out in his own life. The Lord however leads him to the perfect pattern, and I perceive that he tries to keep that before him, for he often observes, that when he can keep Christ crucified in view, he can never commit sin. His reflections on the instability of worldly enjoyments, as exemplified in his own life, are curious and edifying. His heart with respect to the world, he observes, is like a broken glass, fit only to be given to the glass maker. Tho' only now 30, he has fought in Syria, Tartary, Persia, and India, been many times wounded and taken prisoner, has made three pilgrimages to Mecca, was secretary to the kings of Bokhara and Cabul; but now he is apprehended of Christ Jesus, a chosen vessel to bear his name among the Gentiles: and your brother has the work of Aquila and Priscilla assigned him to expound unto him the way of God more perfectly. He is now employed in translating the New Testament into Persian and Arabic, and great will be the benefit to his own soul, that he is called to study the work of God; the Bible-Society at home will, I hope, bear the expense of printing it. This work, whenever it is done properly, will be the downfall of Mahometanism. What do I not owe to the Lord for giving me to take part in a translation? Never did I see such wonders of wisdom and love in the blessed book, as since I have been obliged to study every expression; and it is often a delightful reflection,

that even death cannot deprive us of the privilege of studying its mysteries.

The increase of evangelical religion among the ministers of the establishment is a most welcome piece of intelligence to me, as I hope we shall not want for serious chaplains in India. There will be several vacancies very soon—God in His mercy send proper persons to fill them!

Do not neglect again to write me, my dearest sister. Think whether you would not give me two or three hours of your time now and then, if I were to visit you in person. The tea-caddy, etc., I suppose are irrevocably gone, as you have ceased to mention them. I forgot to mention Lydia's profile, which I received. I have now to request her miniature picture, and you must draw on Mr. Simeon, my banker, for the expense.

Love and congratulations to Mr. and Mrs. Wilson.

Remember me to George and Fortescue, Mrs. Millet and friends at Falmouth and St. Hilary; I rather expected a letter from Mr. H. of St. Hilary. I need not assure you and cousin T. of my unceasing regard, nor Lydia of my unalterable attachment. God bless you all, my beloved friends. Pray for me as I do also for you. Our separation will soon be over. I have some expectation of being removed to a station further up the country in consequence of the death of one of the chaplains there, and Dr. Buchanan's departure for Europe.

A letter directed to me, Chaplain, Bengal, will always find me.

H. M.

Letter 13—to Rev. T. M. HITCHINS, Plymouth Dock.

Cawnpore, October 10th, 1809.

My Dearest Brother,

I am again disappointed in receiving no letter from you. The last intelligence from the West of England is Lydia's letter of 8th July, 1808. Colonel Sandys has long since ceased to write to me, and I have no other correspondent.

It is very affecting to me to be thus considered as dead by almost all my natural relations and early connections; and at

this time, when I am led to think of you and the family to which you are united, and have been reading all your letters over, I feel that I could dip my pen deep in melancholy ; for, strange as it may seem to you, I love so true, that tho' it is now the fifth year since I parted from the object of my affection, she is as dear to me as ever ; yet on the other hand I find my present freedom such a privilege that I would not lose it for hardly any consideration. It is the impossibility of compassing every wish, that I suppose is the cause of any uneasiness that I feel. I know not how to express my thoughts respecting Lydia better than in Martial's words—*Nec tecum possum vivere nec sine te*. However, these are not my general sentiments ; it pleases God to cause me to eat my meat with gladness, praising God. Almost always I am without carefulness, as indeed it would be to my shame if I were not. Having nothing on your part to answer, my dear brother, I have no resource but egotism ; having told you therefore how I am now, I have nothing else to say, but what I have been doing since my last. I forget when I wrote to you, but as I do not remember to have sent you anything since my arrival at this station, I will commence the extracts from my Journal from the date of leaving Danapore.

April 16th. Preached my farewell sermon to the Europeans. Many wept, but it was more for the loss of the minister of the ordinances than for the ordinances themselves. Since my departure no chaplain has been sent there, but the little flock from H.M. 67th still meet every night, and send me accounts from time to time how they go on.

17. Captain Rochfort, 67th, Lieutenant Fitzgerald, M'Donald and Dunbar, all true soldiers of Jesus Christ, I hope, took leave of me with great affection.

18. Set out before day, and at sunrise crossed the Soane, at ten reached Arra, where I spent the remainder of the day with the Judge—had frequent opportunities of speaking to his family on eternal things—left them a "Pilgrim's Progress," and prosecuted my journey at sunset ; travelled all night and arrived at Buxar on morning of 19th, spent the day with Colonel Toone, to whose daughter I had before given the *Christian Remembrancer*,—the very one that Mrs. H. N. Hitchins gave me. I have been obliged to do this with many of my keepsakes. In the evening

set out again, crossed the Ganges, and arrived next morning at Gazeepoor (where Lord Cornwallis died). Passed the day at the Judge's, and argued for the necessity of serious devotion, with his daughter, a very accomplished lady of masculine understanding; left her the "Pilgrim's Progress," and proceeded on my journey at sunset. Next morning found myself at Mr. Robinson's, Benares. He is an assistant surgeon, son of Mr. Robinson of Leicester; both he and his wife fear the Lord. Meeting with those who could discourse about the saints at home, was like setting foot in England. Left them early next morning, crossed the Ganges, and arrived at the fort of Chunar, the station of my beloved brother Corrie. Three happy days did I spend with him and his sister. For He by whose kind care we met, sent His good spirit from above, made our communications sweet, and caused our hearts to burn with love.

23. *Lord's Day*.—Preached at the Fort of Chunar to the invalids, and next morning to another congregation of Europeans at the barracks, at which time one man seems to have been awakened.

25. Set out from Chunar, and came to Colonel Prole's at Tarrah near Mirzapoor. With this blessed man's example was much edified. I suppose him to be the most choice saint in India, considering his profession.

26. Staid at Mirzapoor with the Judge, and succeeded in removing from his mind many prejudices relative to the Bible Society. Left him at sunset. Crossed the Jumna in the morning, and arrived at Allahabad on 27th. Left it at night, travelled all next day and the following night, and reached Cawnpore on the 29th. This part of the journey had nearly proved fatal to me; for as there was no European all the way between Allahabad and Cawnpore, a distance of 140 miles, I was compelled to travel by day, exposed to the hot winds and burning sand.

May 1. Made my calls on Commanding Officers of Corps—seized with a fever—fainted twice.

3-6. Struggling with the disorder, but, by the mercy of God, finally got the better of it.

7. Sunday, commenced my ministry at this place with preaching to the Artillery in the open air, for there is no Church here.

14. Sunday, preached in same manner to H.M. 53rd Regiment. Tho' the service was half-an-hour before sunrise, many of the soldiers fell through the excessive heat. All the rest of the day I was rather dead than alive through the fatigue of preaching; symptoms of consumption appear every Lord's Day.

20. Major-General St. Leger, who commands this station and all the stations in the outer provinces, arrived from his expedition against the Seiks. I talked to him about having a church.

21. Sunday, preached to H.M. 8th Light Dragoons.

22-27. Constantly ill, a headache without intermission, day and night.

28. Sunday, preached to the Artillery; afterwards at headquarters, on the *New birth*. It was a novel subject to the general and his staff. I should not have opened with this, if the day (Trinity Sunday) had not given occasion to it.

29. Began with Sabat the Arabic version of the Scriptures.

June 3. Julio, the Italian Monk, who had been ordered to Lucknow just at the time I was sent here, arrived. Captain and Mrs. Sherwood of 53rd (both believers) dined with us. It was an odd party—one English protestant clergyman, one officer, one lady, one Arabian converted Mahometan, one Italian catholic monk, and one Indian.

4. Sunday, preached at head quarters on the "Rich man and Lazarus."

11. Sunday, preached to the 53rd.

12. Dined at the mess of the 8th Light Dragoons, a feast given in honor of the general's return, to which I was invited as one of the staff. They called for songs and I retreated,—*the time past of our lives may suffice, &c.*

18. Preached to the Dragoons.

19. Went to the city of Lucknow, about 50 miles distant. The Nabob sent a guard of horse for me, as it is dangerous to travel in his country alone. The Nabob of Oude is absolute, and has the power of life and death, but the British Resident at his court controls him. The Resident received me kindly, and entertained me hospitably at his house several days. The Resident lives in great state, never moves out without four and twenty attendants before and behind.

As he is an infidel in sentiment and practice, most of my time there, while I had his company, was taken up in disputing with him. Returned to Cawnpore and preached to the Artillery on 25th, Sunday; and July 2nd at head quarters; 9th, to 53rd; 16th, to Dragoons.

23. Rain—no service.

30. Sunday, service at head quarters. Congregations there much decreased.

6. Sunday, H.M. 53rd.

7. Left Cawnpore for Pertabgurh to marry a couple. You see that I have two king's regiments here, and one company's European artillery.

Besides all this I am considered as chaplain of all the stations dependent on this, so that my parish, or rather province, extends hundreds of miles.

11. Reached Munichipore, on the Ganges, where I landed and travelled about 50 miles north, in the territory of Oude, through a most desolate country, all over-run with wood. As I arrived two days after the day fixed for the wedding, the lady would not be married. She had, however, other reasons. She had promised another, who had come at her request to save her from this second suitor, as far as Danapore, when she changed her mind, and sent him word that he might go back again. She hesitated, however, a long time before she would be married, and at length gave her hand, evidently without her heart. I did not hear the particulars till after the marriage, or I believe I should have demurred.

13. Assembled the people of Pertabgurh at the Commanding Officer's house and preached to them. About 30 officers and ladies attended.

15. Returned to my boat and went slowly up the stream.

20. Sunday, rested this Lord's Day. As soon as the sun began to go down, I went out to explain to the boatmen why I had given them a day of rest. I met several Brahmins coming down to perform their evening ablutions in the Ganges. After a great deal of discussion with them, to which the bystanders seemed to attend, I gave them a summary of God's dealings with me, particularly in reference to the true Avatar (*ὁ ἐρχόμενος*), about which they had been speaking. I told them that the

long expected Avatar was come, and in his name I proclaimed to them remission of sins. But alas! never in one instance has the message of divine truth appeared to excite the smallest interest in the Hindoos. Sabat says that I have not faith. Perhaps it may be that they do not well understand my speech, and that I do not take sufficient pains to explain to them, or in short that I have not true love to their souls.

26. Reached Cawnpore.

27. Sunday, preached to the Dragoons.

September 1st. Resumed the Persian version.

3. Preached to the Artillery.

10th. To the 53rd.

17. To the Dragoons.

20. The Commander-in-chief, General Hewitt, on his way to Calcutta, arrived. He promised to have a church built here.

24. Sunday, preached to the Artillery.

25. Set out for Currah, to marry a couple, and returned on 28th.

30th. At the General's: as usual, met with a cold reception. Ever since a conversation I had with him on the wickedness of swearing, he has been reserved and distant.

October 1st. Preached to the 53rd.

5. Sabat went to Lucknow. Received a summons from Pertabgurh and another from Heitah in Bundelcund, to come and marry a couple, but I refused both. If I am to be thus dragged all over the country, my work interrupted, and my strength exhausted, I may as well leave India.

9. Dining at the superintending surgeon's, I reproved an officer for swearing; he was very angry at being corrected, and spoke sharply, but I was not at all disconcerted, and persisted that I had done my duty. He then began to run down all religion, on which I joined issue with him, and defied him to prove any of his assertions. This gave rise to a discussion of considerable length, which appeared, no doubt, something new to an "Indian feasting party." Thus I go on, my dear brother.

In these extracts you see the life I lead out of doors, and were but this part of my duties tolerably executed, it would be fully sufficient to occupy all my time. Two king's regiments, with

their crowded hospitals, are employment enough for one minister, and too much for me, if I would attempt to do anything for the natives. I am accordingly obliged to forego all that might be done in the week, except occasional visits at the hospitals, and on the Lord's Day I preach but once; my attempts last year at more than this, brought on such symptoms of consumption that I was obliged to desist. In the evenings, however, at my own bungalow, where I am not obliged to exert myself much, I can speak a little to a few chosen ones of the 53rd, who meet there every night. These dear men are a great comfort to me, and in the want of other Christian society, ministering to them is a great help towards keeping alive the spark of grace within me. We feel ourselves singularly privileged that we can sing the songs of Zion in this strange land, even beyond the rivers of Babylon.

Being but lately arrived at this place, I cannot proceed except with caution in instituting schools for the natives. One is well attended, and the book of Genesis is their school book. Translation is my main work—not Hindostanee, but Persian and Arabic—so that I am rather a servant of the Lord for the two latter countries than India. My Hindostanee is kept in exercise by speaking to my servants, about twenty of them, who assemble to hear the word of God every day. I do not perceive that any good is done among them. Upon the whole my work, you see, is different from what I expected when I left England, less apostolic and much less romantic. At present I am an interpreter, by-and-bye I may prophesy, if I purchase to myself a good degree. I desire to be as clay in the hands of the potter, the lowest work in the master's house is an honor of which I am unworthy.

My dear brethren in the ministry are doing but little for India, tho' much for their own countrymen here. Corrie does all he can, but he has not yet a sufficient command of language. Parson at Berhampore, and Thompson at Madras, preach the gospel to the English, but do not attempt speaking to the natives. Thomason, lately arrived, has commenced his studies vigorously; but Calcutta, I fear, will keep his hands full of other work. Dear Mr. Brown, as superintending all, and particularly the translators, is invaluable. The different missionaries you know about from other quarters. Des Granges at Vizagapatam

is a very humble valuable young man, but the celebrated three—Carey, Marshman, and Ward—seem to be out of their right mind. On hearing of the differences existing between them and Mr. Brown, the first impression on your mind or mine would be that Mr. Brown or Dr. Buchanan was in the wrong, and so I persisted in believing until I was convinced of the contrary. They are displeased at Mr. Brown's assigning part of the sum voted by the Bible Society in aid of the translations now going on (in) India, to other translators than those employed by them; whereas every man of common discernment must perceive that it would be for the advantage of the common cause to divide the labour.

They proposed to translate the Bible into ten languages. One of those dialects was the Telinga, which none of the missionaries can speak, nor ever heard spoken but by a Brahmin whom they procured. Now Des Granges lives on the spot, among the people, where he hears nothing else spoken, devoting himself to the acquisition of this alone. He was therefore the proper person to be employed in it. Another of their languages was Persian, which only one of them knows anything about, and this is Mr. Ward, the printer. Sabat began his work with them, but they had not half time enough to give to him—he was therefore sent to me, and I give my whole time to him. The missionaries, if their eye were single, would rejoice in these things. I am loth so much as to imagine anything evil of these pious men, but I cannot help often thinking, that we want more of the spirit which was in Moses. Would God that all the Lord's people were prophets!

How melancholy (and) humiliating that men, who are expected to be eminently heavenly minded, and elevated above the desire of human applause, should betray any anxiety for a name among men—men, so ignorant, so fleeting, so transitory. O may God the Saviour look down with peculiar compassion on his infant Church in India, especially on the ministers of it, and remove all our perverseness and ignorance: on the latter head, I have much to lament. The Hindostanee New Testament, which I have had by me sometime, does not seem to be sufficiently approved of to be printed yet; and God has provided me no suitable help. Again, the four gospels in Persian, which were sent to the press, are not likely to go through,

because a doubt has been started whether the style is not too high. Thus we are baffled—yet it is the Lord's will—and therefore I feel willing to try again and again, till the work is approved. It seems now to be the wish that Sabat should leave the Persian for awhile and commence an Arabic version; to this plan I cordially consent, because it is the most important version of all, Arabic being understood not only in Syria, Tartary, Persia, India, and many parts of China, but through a large part of Africa, and all along the south coast of the Mediterranean.

But I must hasten to a conclusion. I hope you do not forget me in your prayers, tho' I sometimes fear you do. My kindest remembrances attend my dearest sisters, Emma and Lydia, as they well know. You two are such bad correspondents that on this ground I prefer another petition for the renewal of Lydia's correspondence,—she need not suspect anything now, nor her friends. I have no idea that I should trouble her upon the old subject, even if I were settled in England—for O this vain world! *quid habet commodi? quid non potius laboris?*

But I never expect to see England more, nor do I expect that tho' all obstacles should be removed, she would ever become mine unless I came for her, and I now do not wonder at it, tho' I did before. If any one of my sisters had had such a proposal made to them, I would never have consented to their going, so you may see the affair is ended between us. My wish is that she would be scribe for you all, and I promise on my part to send you thro' her an ample detail of *all my* proceedings; also she need not imagine that I may form another attachment—in which case she might suppose a correspondence with an unmarried lady might be productive of difficulties,—for after one disappointment I am not likely to try my chance again, and if I do I will give her the earliest intelligence of it, with the same frankness with which I have always dealt (with her).

Nov. 8th. I have just heard from Colonel Sandys' letter of 5th April, of the changes in your family. I feel deeply affected at the loss* you have sustained, I could weep for hours at the thought of St. Hilary.

Adieu! dearest Brother.

This concluding portion of the letter, beginning at the words "but I never expect, etc." and ending "I have always dealt with her," had been carefully concealed by paper gummed over the original MS., which was removed by hot water and steam.

* Rev. J. Malachy Hitchins, who died in 1809, is probably meant.

Second Set of Letters.

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|----|---|------------------------------|
| 1. | Letter of Rev. H. Martyn to Mrs. Dare,* | 19th May, 1808. |
| 2. | Ditto, | Ditto, 23rd August, 1808. |
| 3. | Ditto, | Ditto, 23rd September, 1808. |

[Letter 1.]

Danapore, May 19th, 1808.

Dear Mrs. Dare,

Your letter arrived just in time to save you from some severe animadversions that were preparing for you. I intended to have sent by your young friend, some remarks direct and oblique, on the variableness of the sex, the facility with which promises are made and broken, the pleasures of indolence, and other topics of the like nature,—but your kind epistle disarms me. Soon after you left us, the heat increased to a degree I had never before felt, and made me often think of you with concern. I used to say to Col. Bradshaw, “I wonder how Mrs. Dare likes Gya, and its burning hills—I dare say she would be glad to be back again.” Well, I should be glad if we had you here again. I want female society, and among the ladies of Danapore there is none with whom I have a chance of obtaining a patient hearing, when speaking to them on the subject of their most important interest. This, you know, is the state of all but Mrs. Stuart, and it is a state of danger and death. Follow them no more, my dear friend; but now, in the solitude of Gya, learn those lessons of heavenly wisdom, that when you are brought again into a larger society, you may not yield to the impulse of doing as others do, but, by a life of true seriousness put them to shame.

I expected from you some account of your new situation, and augur rather unfavourably from your silence; perhaps you had rather write nothing, than write against it. The most unpleasant part of the weather I hope is over, and besides, your stay at Gya will not be very long.

* The names of Capt. D. and Mrs. D. occur in ‘Journal and Letters’ between February 17 and March 24, 1808, wherein Martyn’s relations with them are described just as in this set of letters.

I congratulate you on your large receipt of European letters, and wish you the continuance of such gratification ; but see if your future receipts are not successively smaller, in decreasing progression. Probably your desire of hearing from them will also decrease, and so the loss will be felt less severely.

I go on much as usual, occupied all day, and laying a weary head on the pillow at night. My health, which you enquire after so kindly, is on the whole good ; but I am daily reminded that it is a fragile frame I carry about. Sabat is well, and desires to be remembered to you both. His Arab ferocity is softening fast, I think, into christian meekness and love. His Mary, if you believe him, bids fair to be a giantess.

Your music book I return with thanks, and send you the two Hindostanee books, not to be put upon the shelf, but to be *read*.

Miss Friend will also favour me with delivering 27 rupees, my debt for the teapot. I hope the gaudy superficial teapot does not remind you of me—though mine reminds me of you, because it is solid. May the event prove that this is more than a mere compliment ! may your days be spent in the acquisition of solid wisdom, and the exercise of solid piety. With the kindest remembrances to Captain Dare,

I remain, yours with sincere regard,

H. MARTYN.

Mrs. Dare, Gya.

[Letter 2.]

Danapore, August 23rd, 1808.

My dear Mrs. Dare,

I had long since given up all expectation of hearing from you, because, after waiting some time in vain, I perceived that indolence had relaxed your arm, and at such times *an ingenuous* shame generally comes in to make a bad matter worse ; you have, however, wisely followed a maxim that has saved many, that *it is never too late to amend*.

I rejoice to find by your letter that you are contented with your lot. Before the time of Horace, and since too, contentment has been observed to be a very rare thing on earth, and I know not

how it is to be obtained but by learning in the school of the gospel I have *learned*, said even St. Paul, in whatsoever state I am therewith to be content. To be a little slanderous for once, I suspect Colonel Bradshaw, our common friend, who will send you a letter by the same Sepoy, must have a lecture or two more read to him in this science, as he is far from being perfect in it. He has, you know, all that heart can wish of this world's goods, and yet he is restless ; sometimes the society is dull ; at other times the blame is laid on the quarters, and he must go out of Cantonments. To-day he is going to Gya, tomorrow on the river. Now I tell him that he need not change his place, but his heart. Let him seek his happiness in God, and he will carry about a paradise in his own bosom. *The wilderness and the solitary place shall be glad for him, and the desert shall rejoice and blossom as the rose.*

So much for remarks on my neighbours,—and this is quite slander enough for one letter. I mean to give you no more scandal this time, and hope no one else will send you more. I am concerned to hear of the accident that has happened to Captain Dare—happily for him his *best rib* is left. We, *i.e.* Colonel B. and myself, often talk of an excursion to Gya ; but it is no more than talk I believe. Nothing but the resignation of my charge into the hands of another will afford me time and opportunity, and that is not likely to happen while your corps is at this station.

Sabat is tolerably well, and thanks you for your enquiries after him and his Mary. His admiration of the first-born is likely to be divided soon between her and another—notwithstanding his sorrowful reflections on the hobble into which he has brought himself. I hope these tender cares will contribute to soften his temper, for, I suppose, the sight of a large family, all depending on his care, is enough to damp even an Arab's ardour.

You will gather from the tenor of my remarks that I am not yet a convert of your opinions.

The Commander-in-chief passed here, you know ; I called on him and his family, and was much pleased with them all. I pressed the point of building churches here and at other stations, and have scarcely a doubt but that we shall at last have them. Here, the old house is to be repaired for the purpose.

The Sepoy will carry for you the two Hindostanee books, which, by Miss Friend's unexpected departure, were left behind ;

also your music book, and 27 Rupees, the difference of the teapots, which I so often forgot.

Make my kind remembrances to Capt. Dare and Miss Friend, and believe me to be with sincere regard, truly yours,

H. MARTYN.

Mrs. Dare, Gya.

[Letter 3.]

Danapore, September 23rd, 1808.

My dear Mrs. Dare,

The day after I received your letter, which was Sunday, I was attacked with a fever*, that for some hours seemed to threaten my life; but, by the mercy of God, I am somewhat recovered, tho' not sufficiently so to resume all my employments. It is one of my first duties, however, to notice the subject of your last.

The loss of such a sister is no common affliction; but if her virtues and piety were the qualities that endeared her to you, the greater your loss, the richer is her gain.

I know no real source of consolation to the survivors of departed friends, but a well-grounded assurance that they are happy in another world; and this hope I think you have, for the letter you showed me seemed evidently dictated by a heaven-born soul. Nothing, therefore, need be added on the head of consolation. It is of more importance that you should consider what lessons God designs to teach you by this event. You hoped, no doubt, to enjoy much pleasure in her company many years to come—perhaps before your return many other friends will be removed. Does not this teach you, my dear friend, the extreme vanity of our fondest scheme of pleasures, and the necessity of looking forward chiefly and habitually to that scene where there are no such vicissitudes, no cruel disappointments?

A younger sister taken! How near to yourself has the shaft of death passed! Did it not say to you,—“Prepare to meet thy God”?

My dear Mrs. Dare, attend to the call of God; He never speaks more to the heart, than by affliction. Such a season as this, so

* ‘Journal and Letters,’ Vol. II, p. 215.

favourable to the commencement of true piety, may never again occur. Hereafter time may have rivetted worldly habits on you, and age rendered the heart insensible. Begin now to be melancholy? No—to be seriously happy, to be purely happy, everlastingly happy.

It would be a great satisfaction to me on your account, and my own, to be near you at this time, and if Gya were on the banks of the river, I believe, indeed, I should come, for I much need a change of air; but Gya is probably more close than this place, and a journey by land my strength would scarcely enable me to support. I beg my kind remembrances to Captain Dare, and Miss Friend, and remain,

Sincerely yours,

H. MARTYN.

Mrs. Dare, Gya.

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